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ABSTRACT

The purpose of this released exercise set is to provide easy access to released exercises from the National Assessment of Educational Progress (NAEP) third mathematics assessment, conducted in 1981-82. Documentation includes basic reference numbers, objective classifications National Assessment has found useful, timing and administration data for each age group, and scoring guides for open-ended items. Part 1 of the text briefly explains NAEP's assessment procedures and describes the documentation provided for the various kinds of exercises in the set. Part 2 describes rationales behind the development of the attitudinal and experience questions for the 1981-82 mathematics assessment. Part 3 describes the taxonomic and content classifications used to develop and report on cognitive exercises for the 1981-82 mathematics assessment. The remainder of the exercise set consists of copies of released exercises and documentation for each exercise. Attitudinal and experience exercises compose Appendix A, followed by cognitive exercises in Appendix B, and by data for cognitive exercises in Appendix C. (BW)

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ED237546

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

MATHEMATICS

RELEASED EXERCISES FROM THE 1981-82 ASSESSMENT

13-MA-25

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When the U.S. Office of Education was chartered in 1867, one charge to its commissioners was to determine the nation's progress in education. The National Assessment of Educational Progress (NAEP) was initiated a century later to address, in a systematic way, that charge.

Each year since 1969, National Assessment has gathered information about levels of educational achievement across the country and reported its findings to the nation. NAEP surveys the education attainments of 9-year-olds, 13-year-olds, 17-year-olds and young adults, ages 26-35, in ten learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies and writing. Different learning areas are assessed every year, and all areas are periodically reassessed in order to measure possible changes in education achievement. National Assessment has interviewed and tested more than a million young Americans since 1969.

Learning-area assessments evolve from a consensus process. Each assessment is the product of several years of work by a great many educators, scholars and lay persons from all over the nation. Initially, these people design objectives for each subject area, proposing general goals they feel Americans should be achieving in the course of their education. After careful reviews, these objectives are given to exercise (item) writers, whose task it is to create measurement tools appropriate to the objectives.

When the exercises have passed extensive reviews by subject-matter specialists, measurement experts and lay persons, they are administered to probability samples. The people who compose these samples are chosen in such a way that the results of their assessment can be generalized to an entire national population. That is, on the basis of the performance of about 2,000 9-year-olds on a given exercise, we can make generalizations about the probable performance of all 9-year-olds in the nation.

After assessment data have been collected, scored and analyzed, National Assessment publishes reports to disseminate the results as widely as possible. Not all exercises are released for publication. Because NAEP will readminister some of the same exercises in the future to determine whether the performance level of Americans has increased, remained stable or decreased, it is essential that they not be released in order to preserve the integrity of the study.

INTRODUCTION

The purpose of this released exercise set is to provide easy access to released exercises from the National Assessment of Educational Progress (NAEP) third mathematics assessment, conducted in 1981-82. Exercises and documentation are in loose-leaf format to facilitate sorting and copying. These released exercises are in the public domain; therefore, there are no restrictions on copying or using the exercises in this booklet. Documentation has been kept to a minimum. It includes basic reference numbers, objective classifications National Assessment has found useful, timing and administration data for each age group, and scoring guides for open-ended items.

Detailed achievement data on group performance or changes in performance from previous assessments are not included in this report; they will be published in other reports. Similarly, detailed documentation of the objectives and development process is not included; but is being published concurrently in Mathematics Objectives, 1981-82 Assessment (1981) available from National Assessment.

Exercises were administered to 9-year-olds, 13-year-olds, and 17-year-olds. Some exercises were administered to only one age group, others to two or more age groups. The number of released cognitive (knowledge, skills, etc.) and affective (attitudinal) exercises for each age group or combination of age groups is shown in Exhibit 1.

Part 1 of the text briefly explains NAEP's assessment procedures and describes the documentation provided for the various kinds of exercises in the set.

Part 2 describes rationales behind the development of the attitudinal and experience questions for the 1981-82 mathematics assessment. The entire set of attitudinal and experience exercises has been released and is included as Appendix A of this set.

Part 3 describes the taxonomic and content classifications used to develop and report on cognitive exercises for the 1981-82 mathematics assessment (Appendix B). About one-fourth of these exercises have been released. The remainder have not been released because National Assessment will readminister them in the future to determine whether the performance level of young Americans has changed.

The remainder of the exercise set consists of copies of released exercises and documentation for each exercise. Attitudinal and experience exercises compose Appendix A, followed by cognitive exercises in Appendix B, and by data for cognitive exercises in Appendix C.

During some years National Assessment has administered exercises to supplementary samples of 17-year-olds who were not in school. However, during the 1981-82 assessment, only 17-year-olds enrolled in school were sampled.

EXHIBIT 1. Number of Released Cognitive and Affective Exercises by Age Group or Combination of Age Groups

Cognitive Exercises

	<u>Calculator Not Used*</u>				<u>Calculator Used*</u>			
	Age 9	Age 13	Age 17	Total	Age 9	Age 13	Age 17	Total
Age 9 only	11	---	---	11	0	---	---	0
Age 13 only	---	7	---	7	---	0	---	0
Age 17 only	---	---	16	16	---	---	0	0
Ages 9 and 13	9	9	---	9	0	0	---	0
Ages 13 and 17	---	34	34	34	---	3	3	3
Ages 9, 13 and 17	5	5	5	5	1	1	1	1
TOTAL	25	55	55	82	1	4	4	4

Affective and Mathematical Experience Exercises

	Age 9	Age 13	Age 17	Total
Age 9 only	5	---	---	5
Age 13 only	---	2	---	2
Age 17 only	---	---	3	3
Ages 9 and 13	0	0	---	0
Ages 13 and 17	---	5**	5**	5
Ages 9, 13 and 17	0	0	0	0
TOTAL	5	7	8	15

*Some exercises in one booklet of exercises at each of the ages (9, 13 and 17) was administered using an electronic hand-held calculator. Some of these items were also administered in other booklets without calculators. Hence, the released exercises administered with calculators have been tallied separately.

**This number includes two computer literacy items.

PART 1

NAEP ASSESSMENT PROCEDURES

All exercises in this set were administered to at least one of three different age groups of students. Exercises were administered in booklets (packages) containing 29 to 43 exercises. One package for each age level required the use of a hand calculator for some exercises. Exercise packages were accompanied by paced audiotapes. The announcer read the test and response options for most exercises and told respondents when to go on to the next exercise. The total administration time for each package, including introduction, sample exercise and background questions, was about 45 minutes.

Age groups and assessment dates were as follows:

<u>Age Group</u>	<u>Birthdates</u>	<u>Assessed During</u>
13-year-olds	January to December 1968	October to December 1981
9-year-olds	January to December 1972	January to February 1982
17-year-olds	October 1964 to September 1965	March to May 1982

Each package of exercises was administered to a national sample of from about 1,900 to about 2,100 students; no student took more than one package. About 50 percent of the exercises were multiple-choice with a machine-scorable oval (foil) to the left of each response choice. The remainder of the exercises were open-ended and required the respondent to draw diagrams, graphs points, write a short answer or an equation, perform routine calculations or solve a problem. The scoring guides used to categorize responses for these exercises are included following each open-ended exercise. (Scoring guides are explained toward the end of this chapter.)

Each exercise is reproduced essentially as it was seen by the respondent. It is accompanied by documentation containing information about exercise administration. This information is described in the following example, using as a sample the documentation for Exercise RD90141.

Documentation

A. Release #: RD90141

B. NAEP #: 5-A21013-43D-123

C. Content Objective: Measurement
Process Objective: Skill

D. Exercise Type: Open-ended
Stimulus Type: Text/Tape

E. Overlap:

1981-82 Package-Exercise:	$\frac{9}{05-12}$	$\frac{13}{07-03}$	$\frac{17}{10-01}$
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F. Timing: (in seconds)

Exercise Total Time	$\frac{9}{34}$	$\frac{13}{35}$	$\frac{17}{35}$
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A. Release Number

The 1981-82 release number contains seven characters² beginning with the letter R and uniquely identifying each exercise. The second character from the left will be a letter from A through F, or the digit zero. The letters refer to the content area to which the exercise refers. Referencing is as follows:³

- A = Numbers and numeration
- B = Variables and relationships
- C = Shape, size and position
- D = Measurement
- E = Probability, statistics, graphs and tables and some computer and calculator items
- F = Some technology items

Release numbers with zeros in this position are mathematics experience exercises given to all respondents at the age(s) for whom the exercise was written.

² Exercises that were administered with the electronic hand calculator have an eight character release number. The right-most character in the release number for these exercises is a "K."

³ There are two exceptions to this referencing scheme: D11711-92D-2 and E80511-92D-23, which are mathematics experience items given only once at the age(s) for which the items were written.

B. NAEP Number

In most cases, part of the NAEP number and the release number for an exercise are identical, except that the release number has an R as the first character. The NAEP number is a unique number assigned to each exercise for documentation and reference purposes. NAEP numbers also contain other numbers that may be useful to the reader.

For example, this exercise has the release number RD90141. The full NAEP number associated with this exercise is 5-A21013-43D-123, where: "5" in the first position indicates that this is a mathematics exercise (as are all the exercises in this booklet); "43D" is an assessment indicator. The assessment indicators used in this booklet are: D1D—1981-1982 exercise used for the first time in 1981-82; 92D—1977-78 exercise used for the second time in 1981-82; and "43D"—1972-73 exercise used for the third time in 1981-82. The last three digits "123" are an age group indicator. The age group indicator shows what age groups responded to the exercise in 1981-82. The values are: 1 = age 9; 2 = age 13 and 3 = age 17. The digits "123" as the age group indicator would show that the exercise was administered to 9-, 13- and 17-year-olds. The age group indicator may be one, two or three digits long.

C. Content Classifications and Objectives

All the exercises administered in the 1981-82 assessment are classified by content area. Most are also classified by process objective. These classifications were used to guide the development of the 1981-82 mathematics assessment. All the exercises from the prior mathematics assessments have been classified by the 1981-82 content area and assessment objective so that they could be reported with the 1981-82 items.

D. Exercise Type and Stimulus Type

Exercises are classified as either multiple-choice or open-ended; this classification is presented as the exercise type. Some exercises have multiple-choice parts and some open-ended parts.

Most exercises have both a text and a tape-recorded stimulus. Some exercises also have additional stimulus materials, such as graphs, tables and pictures, while a few exercises have either only a taped stimulus or only a text stimulus.

E. Package and Exercise Number

Exercises were assembled into packages for administration to each age group. For each group, the 1981-82 package and exercise number is shown. For example, the number "05-12" denotes package 5, exercise 12. There is not, in general, any correspondence between package numbers for various ages. For example, package 7 for age 13 may contain some of the same exercises as package 8 for age 17.

F. Exercise Time

As mentioned, exercise packages were administered by paced audiotapes. For each age group, the total time allowed (in seconds) for an exercise in the 1981-82 assessment is shown. The total time is the time allotted for reading the exercise and for responding to it. Actual tapescripts, showing exactly what was read and how the total time was broken down into reading and responding times, are available from National Assessment. Times given for exercises measuring changes are the 1981-82 assessment times. Unless there is a footnote to the contrary, the 1972-73 and 1977-78 assessment times were identical to those in the 1981-82 assessment.

Data Included in the Exercise Set

In Appendix A of this volume, estimates of national p-values are reported for each foil of each part of every effective exercise. These data are placed directly on copies of the exercises. To provide room for the data the response ovals (foils) used by the respondents were removed. A column of data labeled "no response" is provided for each exercise part. This data is an estimate of the percentage of respondents who did not respond to the exercise part in question. However, "no response" was not a response option for an exercise.

A few of the exercises in Appendix A have relatively high nonresponse rates. These high nonresponse rates seem to be, at least in part, due to exercise placement within the package.

For exercises given to both ages 13 and 17, the data is presented on two lines. On all these exercises the age 13 data is given on the upper line and the age 17 data on the lower one.

Correct answer estimates of p-values are provided for cognitive items. These estimates are included as Appendix C, which contains data for the nation and modal grade.

Statistics reported and definitions of the selected population groups follow.

Statistics Used in the Exercise Set

Since National Assessment uses a national probability sample to collect data, the findings are reported as estimates of the percentage of individuals in a given group who would successfully complete a particular exercise if everyone in that group in the country had been tested. Thus, when we say that "85 percent" of the 9-year-olds gave correct responses, 85 percent is an estimate of the proportion of all 9-year-olds in the country who would have answered correctly if all 9-year-olds had been assessed.

These percentages are always subject to sampling error since they are computed from a sample rather than from the entire population. The standard errors of these percentages provide a measure of the sampling variability among all possible samples. The standard error of a sample statistic can be used to construct a confidence interval for the estimate--for example, the interval from two standard errors below to two standard errors above the particular sample value would include the average of all possible values in about 95 percent of the samples.

Standard errors for the p-values contained in Appendix C of this release exercise set can be estimated using a pair of formulas given below. For a simple random sample the standard error of a p-value is

For National Assessment data the following equations should be used to obtain reasonably accurate estimates of the standard errors.

If $30\% \leq P \leq 70\%$ then

$$se_p = \sqrt{\frac{2P(100-P)}{n}}$$

If $P < 30\%$ or $P > 70\%$ then

$$se_p = \sqrt{\frac{32.4}{n}} + \sqrt{\frac{P(100-P)}{2n}}$$

For both equations:

P = weighted percentage

se_p = estimated standard error of the percentage P

n = sample size

The approximate sample sizes for the nation and modal grade are given for each age in Table 1.

TABLE 1

Approximate National and Modal Grade Sample Sizes for the
1981-82 Mathematics Assessment by Age

	Age 9	Age 13	Age 17
National	1992	1970	2040
Modal Grade	1398	1407	1511

Definitions of Selected Reporting Groups

In addition to results for the nation as a whole, National Assessment reports performance of various groups within the national population. Definitions of the groups reported in this volume follow.

Age

Results are reported for all persons enrolled in public or private schools who were 9, 13 and 17 years old at the time of the assessment.

Modal Grade

The modal grade is the school grade in which most (70 to 75 percent) students in a specific age group are found. The modal grades for each age group are: age 9—grade 4; age 13—grade 8; and age 17—grade 11.

A state or district that conducts an assessment of grades 4, 8 or 11 and tabulates results separately for students who are 9, 13 or 17 years old (according to National Assessment's age definition) will be able to compare its results to National Assessment's modal-grade results.

Scoring Guides

Open-ended exercises were scored by specially trained scorers. To help assure consistent scoring, National Assessment developed detailed scoring guides for those exercises. A scoring guide defines acceptable and unacceptable responses for an item. The acceptable and unacceptable categories are usually further subdivided into finer categories to describe common responses or types of responses that are of substantive interest.

A two-digit classification system is used for coding each response.

10-19 = Categories of acceptable responses

20-29 = Categories of unacceptable responses

77 = "I don't know responses

88 = No response

As part of the quality-control procedures used during the scoring of open-ended exercises administered in the 1981-82 assessment, samples of responses were periodically drawn for multiple scorings. That procedure was developed to monitor scorers' consistency. Each sample of exercise responses was selected randomly and was read and scored by a randomly selected scorer. These scores were recorded on separate forms designed for the quality-control procedure. Later, the sample exercise responses again were scored independently by another scorer, and scores were recorded as usual on the exercise page. These scores were then added to the quality-control forms by another staff worker, and the two category assignments for each response were compared for consistency.

Exhibit 2 displays the average percentage of agreement between the twice-scored quality-control responses. For each released open-ended exercise the percentage of agreement has been averaged across exercise parts and across the multiple readings for each age group to which the exercise was given. The information is arranged in release-number order. NAEP numbers and the age overlaps are also indicated for the exercises. The number of pairs of category assignments included in the computation of the percentage of scorer agreement ranges from about 30 pairs to nearly 400 pairs. When scoring was begun, more samples were used than were used near the end of the scoring process. The average percentages of scorer agreement in Exhibit 2 range from 87.8 percent to 100 percent. Most scorer agreements tended to be greater than 95 percent.

EXHIBIT 2. Average Percentage of Scorer Agreement
for Released Open-Ended 1981-82 Mathematics Exercises

Released Number	NAEP Number	Age Overlap	Age 9 Average Percentage Agreed	Age 13 Average Percentage Agreed	Age 17 Average Percentage Agreed
RA24031	A24031	23	---	97.3	98.8
RA24431	A24431	23	---	98.0	99.8
RA25432	A25432	1	96.9	---	---
RA25632	C70009	1	99.6	---	---
RA32921	A32921	2	---	99.4	---
RA32921K	A32921K	123	98.3	98.8	98.4
RA34342	A34342	12	99.1	100.0	---
RA35241	A35241	23	---	99.4	98.5
RA36342	A36341	23	---	96.4	97.9
RA36511	A36511	1	99.3	---	---
RA37111	A37111	1	99.7	---	---
RA44621	A44621	2	---	97.5	---
RA47344	C50002	23	---	97.6	95.8
RA47344K	C50002K	23	---	98.1	100.0
RA47711	A47711	1	98.9	---	---
RA48221	A48221	2	---	93.9	---
RA48221K	A48221K	23	---	96.3	99.3
RA52132	A52132	23	---	96.8	95.3
RA70443	A70443	1	97.4	---	---
RA71443	A71443	23	---	96.2	93.8
RA94123	P00001	23	---	98.1	98.3
RB22325	B22325	3	---	---	98.6
RB23025	H11025	23	---	98.2	98.5
RB25142	B25142	3	---	---	97.6
RB25625	B25625	2	---	97.1	---
RC60824	C60824	3	---	---	87.8
RD21722	E11006	1	94.4	---	---
RD30122	D30122	12	97.7	99.4	---
RD40722	D40722	3	---	---	99.3
RD90141	A21013	123	98.5	99.4	99.2
RD91242	D91242	3	---	---	93.5
RD91342	D91342	23	---	98.2	97.2
RD91342K	D91342K	23	---	96.3	98.6
RD92141	E15003	23	---	100.0	98.3

PART 2

AFFECTIVE AND MATHEMATICAL EXPERIENCE EXERCISES FROM THE 1977-78 MATHEMATICS ASSESSMENT (APPENDIX A)

Attitudes and Values in Mathematics

Many mathematics educators consider positive attitudes toward mathematics to be an important education outcome. However, in most cases it is inappropriate to make statements about how people should feel or think. Therefore, the affective components of the assessment were designed to be primarily descriptive--to find out what attitudes and values are held, and ultimately, to discover changes in attitudes over time.

The affective or attitudinal mathematics exercises are organized into four categories according to content. These categories are not to be construed as attitudinal scales. They are: mathematics in school, mathematics and oneself, mathematics and society, and mathematics as a discipline. All of the attitude items used by National Assessment in the 1981-82 assessment were also used in the 1977-78 assessment and were released after that assessment. It has been the policy of National Assessment to both release and reassess attitudinal items when the items seemed appropriate across multiple assessments.

Mathematics in School

Attitudes toward the mathematics encountered in school are covered in the exercises in this category. They include a school subject comparison, a breakdown of classroom activities by frequency of occurrence, students' attitudes toward these activities, and a measure of the frequency of various mathematics content activities.

Mathematics and Oneself

This category assesses a respondent's perceptions of himself or herself in relationship to mathematics. Anxiety, motivation, self-concept and enjoyment of mathematics are the topics reflected in these exercises.

Mathematics and Society

This category includes measurement of the value of mathematics. The exercises assess perceptions of attitudes toward the usefulness and importance of mathematics to society and to the individual.

Mathematics as a Discipline

Here are respondents' views of mathematics as a cumulative or compartmentalized subject or as a fixed or changing subject, and of mathematics as a process, as well as other aspects of the nature of mathematics. There were no exercises in this category deemed appropriate for age 9 respondents.

Experiences in Mathematics

A set of questions was developed to measure students' experience in mathematics-related activities. These exercises provide information about respondents' experiences with the metric system, electronic hand-held calculators, computers and, for 17-year-olds, about high school mathematics courses.

PART 3

COGNITIVE EXERCISES FROM THE 1977-78 MATHEMATICS ASSESSMENT⁴ (APPENDIX B)

Early in the development of the materials for the 1981-82 mathematics assessment a matrix for objectives was adopted. The matrix comprised mathematical process and mathematical content.

Mathematical Process

Mathematical Knowledge

The recall and recognition of mathematical ideas expressed in words, symbols or figures is the first subcategory in the mathematical process dimension. It relies, for the most part, on memory processes, and usually does not require more complex mental processes.

Mathematical Skill

Mathematical skill concerns the routine manipulation of mathematical ideas. It relies on the application of standard procedures or algorithms always leading to an answer. Mathematical skill requires the recollection of how to perform an algorithm.

Mathematical Understanding

The explanation and interpretation of mathematical knowledge compose mathematical understanding. Mathematical knowledge can be expressed in words, symbols or figures, while mathematical understanding relies primarily on the process of translating mathematical ideas within or between modes of expression. Mathematical understanding involves the memory process in addition to the processes of associating one item or knowledge with another.

⁴ A more detailed treatment of the objectives and development process for the 1981-82 mathematics assessment is given in Mathematics Objectives, 1981-82 Assessment (see Bibliography).

Mathematical Application

Application refers to the use of mathematical knowledge, skill and understanding. It requires use of the memory, algorithmic, translation and judgment processes to solve problems.

Mathematical Content

The second dimension of the matrix divides the domain of mathematics into five content classifications, each addressed by specific exercises in the assessment. The content classifications are:

Numbers and Numeration

Whole numbers, integers, rational numbers expressed as common fractions or decimals, percents and real numbers compose numbers and numerations. A major emphasis is on operations with numbers. However, understanding of number concepts and properties and the use of numbers to solve problems are also assessed.

Variables and Relationships

Variables and relationships include algebraic facts; symbols, definitions, equations, inequalities, functions and formulas. In addition, exponents, coordinate systems and trigonometric functions are included in this category. Exercises that assess operations, understanding and problem solving are included in this classification.

Shape, Size and Position

School geometry objectives are stressed in this content classification, but the emphasis is not on geometry as a formal deductive system. NAEP used exercises concerning plane and solid figures, properties of some plane figures, basic theorems and relationships such as congruence and similarity, constructions, rotations and symmetry.

Measurement

Instrument reading, choice of appropriate units, measures of weight, capacity, time, temperature and length are included here. Also covered are concepts of area, volume and precision. Many exercises in this group use metric units or assess knowledge of the metric system of measurement.

Statistics and Probability

Probability and statistics is comprised of collecting data, organizing data with tables, charts and graphs; interpreting data; drawing inferences and making generalizations; using statistics, combinations and prediction of outcomes.

Technology

The impact of new technology on school mathematics is measured in this content area by items assessing the use of the calculator and computer literacy.

All items except for the attitude and mathematics experience items, have been classified by content objective and by process objective. There may be some disagreement as to the proper classification of some of the exercises; perhaps several exercises could be properly located in more than one matrix cell. These drawbacks notwithstanding, it is hoped that the classifications will be of help to users of this set of exercises.

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APPENDIX A

Released
Affective & Experience
Exercises
With Foil Level
National Data
1981-82
Assessment

How often have you used the metric system of measurement in each of the following?

No Response		Never	Seldom	Often	I don't know.
0.0	A. In mathematics classes	12.2	50.8	33.8	3.2
0.1	B. In science classes	23.2	34.2	38.7	3.9
0.2	C. In other classes in school	45.2	40.5	8.1	6.0
0.3	D. Outside of school	49.1	36.3	11.7	2.6



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD11711

NAEP #: 5-D11711-92D-2

Objective: H. Mathematics Experience

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap: 13
Package-Exercise: 13-33

TOTAL TIME: (in seconds) 13
35

No
Response

0.7
0.2
2.1
0.7
2.4
0.9
2.4
0.5
2.9
0.3

A. How much do you like or dislike each of these subjects?

	Dislike it a lot	Dislike it a little	Undecided	Like it a little	Like it a lot	Never took
Science	8.4	14.6	4.0	46.0	25.1	1.2
Social Studies	9.4	16.0	5.4	46.3	22.2	0.6
Mathematics	11.7	18.5	7.3	34.5	25.3	0.6
English	10.0	15.2	9.7	38.2	25.2	1.0
Physical Ed.	7.3	11.2	6.8	31.0	41.2	0.2
	13.5	12.8	6.8	34.2	31.2	0.2
	9.5	16.3	9.9	34.1	26.6	1.0
	10.1	15.2	8.8	36.1	29.2	0.1
	5.3	5.2	5.4	17.6	58.4	6.2
	6.5	5.9	5.7	24.2	55.0	2.3

B. How easy or hard is each of these subjects?

2.2
0.5
1.8
1.3
1.2
0.2
1.2
0.2
1.2
0.3

	Very Easy	Easy	Undecided	Hard	Very Hard	Never took
Science	6.4	36.7	20.6	29.0	3.9	1.2
Social Studies	4.3	33.6	19.3	36.4	5.4	0.5
Mathematics	7.5	40.0	16.3	27.3	6.3	0.7
English	10.7	42.6	16.4	22.8	5.3	0.9
Physical Ed.	15.7	41.2	13.2	23.8	4.8	0.1
	10.4	33.3	12.1	31.4	12.4	0.2
	13.0	41.0	17.7	20.1	6.1	0.9
	11.5	42.4	14.3	23.1	8.2	0.2
	47.3	32.0	7.8	4.1	1.0	6.5
	63.2	25.3	5.8	2.3	1.0	2.1

C. How important or unimportant is each of these subjects?

2.1
0.5
1.9
0.4
1.5
0.7
1.7
0.5
1.4
0.4

	Unim- portant	Not very important	Undecided	Im- portant	Very im- portant	Never took
Science	3.2	13.4	10.1	47.8	22.3	1.1
Social Studies	4.7	15.2	9.1	44.5	25.8	0.2
Mathematics	3.9	14.0	11.0	43.0	22.4	0.8
English	4.5	16.9	11.9	49.3	16.2	0.7
Physical Ed.	2.1	2.1	3.4	26.5	64.5	0.0
	0.8	2.8	3.3	34.9	57.4	0.1
	2.4	5.0	5.2	32.8	52.2	0.7
	1.7	3.9	5.0	29.8	59.0	0.0
	8.7	28.5	10.9	29.1	15.9	5.5
	11.2	30.6	10.8	30.8	14.4	1.7



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RE60351

NAEP #: 5-E60351-92D-23

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:	$\frac{13}{13-01}$	$\frac{17}{08-01}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{148}$	$\frac{17}{131}$
--------------------------	------------------	------------------

This exercise asks how you feel about computers. There are no correct answers. The answer choices are "Strongly Disagree," "Disagree," "Undecided," "Agree," or "Strongly Agree." For each part, choose the response that BEST describes how you feel about the statement. Be sure fill in one oval in each box.

No
Response
0.2
0.1

A. Computers dehumanize society by treating everyone as a number.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
12.0	24.0	41.3	17.2	5.3
7.1	34.1	26.9	25.2	6.6

0.3
0.2

B. The more computers are used, the less privacy a person will have.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
10.7	35.1	28.1	19.7	6.0
7.8	38.6	24.3	23.9	5.1

0.3
0.2

C. Computers will probably create as many jobs as they eliminate.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5.3	12.6	21.0	48.7	12.0
4.7	21.3	17.5	48.2	8.1

0.4
0.2

D. Computers slow down and complicate simple business operations.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
23.6	37.8	19.7	14.2	4.3
30.2	46.8	12.2	9.0	1.6

0.1
0.1

E. Someday most things will be run by computers.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
2.2	3.6	12.8	51.1	20.2
1.0	4.3	7.3	54.1	33.2

0.0
0.2

F. A knowledge of computers will help a person get a better job.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
3.3	10.2	18.2	46.8	21.4
1.5	6.4	12.4	49.9	29.7

0.1
0.1

G. Computers can help make mathematics more interesting.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
2.5	6.3	17.6	48.2	25.5
2.7	7.7	21.6	52.3	15.7



DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

How do you feel about each of these statements?

No Response 0.4 0.2	H. Computers are suited for doing repetitive, monotonous tasks.				
	Strongly Disagree 1.9 1.8	Disagree 11.4 12.8	Undecided 47.7 30.7	Agree 33.2 44.0	Strongly Agree 5.5 10.5
0.2 0.1	I. Computers are programmed to follow precise, specific instructions.				
	Strongly Disagree 1.5 0.4	Disagree 2.8 2.4	Undecided 7.6 6.2	Agree 64.6 63.3	Strongly Agree 23.4 27.5
0.1 0.1	J. Computers require special languages for people to communicate with them.				
	Strongly Disagree 4.4 1.9	Disagree 15.7 15.7	Undecided 23.9 17.9	Agree 42.8 47.4	Strongly Agree 13.0 17.1
0.1 0.1	K. Computers have a mind of their own.				
	Strongly Disagree 20.4 25.9	Disagree 32.3 38.9	Undecided 13.3 14.2	Agree 25.4 16.4	Strongly Agree 8.4 4.5
0.1 0.1	L. Computers make mistakes much of the time.				
	Strongly Disagree 21.5 18.2	Disagree 42.7 46.1	Undecided 19.0 20.8	Agree 13.2 12.7	Strongly Agree 3.5 2.1
0.2 0.1	M. To work with a computer, a person must be a mathematician.				
	Strongly Disagree 24.4 21.2	Disagree 45.1 53.0	Undecided 14.4 12.3	Agree 12.6 10.9	Strongly Agree 3.3 2.6
0.0 0.2	N. Computers store instructions and information.				
	Strongly Disagree 0.9 0.7	Disagree 2.4 1.1	Undecided 5.3 3.8	Agree 57.7 55.4	Strongly Agree 33.6 38.7



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: EE60551

NAEP #: 5-E60551-92D-23

Content
Objective: F. Technology

Process
Objective: Computer Literacy

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{13}{14-03}$ $\frac{17}{13-02}$

TOTAL TIME: (in seconds) $\frac{13}{151}$ $\frac{17}{154}$

This exercise asks how you feel about mathematics or mathematics activities. There are no correct answers. The answer choices are "Strongly Disagree," "Disagree," "Undecided," "Agree," or "Strongly Agree." For each part, choose the one response that best describes how you feel about the statement. Be sure to fill in one oval in each Box.

A. I am willing to work hard to do well in mathematics.

No
Response
0.2
0.2

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
0.7	2.0	5.0	56.2	35.9
1.0	5.7	13.3	58.6	21.4

B. Mathematics is more for girls than for boys.

0.2
0.2

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
59.1	31.2	6.2	1.8	1.4
55.0	36.3	6.6	1.1	0.7

C. Learning mathematics is mostly memorizing.

0.7
0.4

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5.9	30.0	17.0	38.0	8.5
9.0	32.7	11.7	39.5	6.7

D. Mathematics is useful in solving everyday problems.

0.5
0.2

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
2.5	9.9	10.9	45.4	30.7
2.8	11.2	10.4	50.4	24.9

E. Exploring number patterns plays almost no part in mathematics.

1.2
0.5

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
19.9	46.3	22.3	8.2	2.0
20.5	47.7	22.4	6.8	2.0



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

(Continued)

How do you feel about each of these statements?

No Response 0.2 0.1	F. I enjoy mathematics.				
	Strongly Disagree 5.9 10.4	Disagree 13.3 19.9	Undecided 13.2 15.6	Agree 48.3 40.2	Strongly Agree 19.2 13.8
0.3 0.3	G. There is always a rule to follow in solving mathematics problems.				
	Strongly Disagree 0.4 0.7	Disagree 4.2 4.7	Undecided 4.7 5.1	Agree 61.7 66.0	Strongly Agree 28.7 23.2
0.2 0.1	H. Most of mathematics has practical use.				
	Strongly Disagree 1.6 1.3	Disagree 4.9 10.1	Undecided 11.5 10.2	Agree 60.9 62.6	Strongly Agree 21.0 15.6
0.2 0.3	I. Knowing how to solve a problem is as important as getting a solution.				
	Strongly Disagree 0.5 0.7	Disagree 2.8 2.4	Undecided 7.4 3.9	Agree 51.6 50.8	Strongly Agree 37.6 41.9
0.1 0.3	J. Doing mathematics requires lots of practice in following rules.				
	Strongly Disagree 1.6 0.6	Disagree 11.7 9.5	Undecided 14.2 11.6	Agree 50.1 58.3	Strongly Agree 22.3 20.8
0.2 0.2	K. I can get along well in everyday life without using mathematics.				
	Strongly Disagree 40.9 29.6	Disagree 42.1 44.5	Undecided 9.2 12.3	Agree 5.3 11.1	Strongly Agree 2.2 2.3
0.3 0.2	L. Mathematicians work with symbols rather than ideas.				
	Strongly Disagree 3.6 6.1	Disagree 24.9 28.4	Undecided 42.4 35.1	Agree 24.7 27.2	Strongly Agree 4.1 3.0



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

(Continued)

How do you feel about each of these statements?

No. Response 0.7 0.2	M. Fewer men than women have the logical ability to become mathematicians.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	26.8 31.4	42.6 45.6	19.3 16.1	9.2 5.8	1.5 0.2
0.7 0.2	N. Knowing why an answer is correct is as important as getting the correct answer.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.1 1.1	3.5 2.2	6.9 4.6	58.0 54.5	29.8 37.5
0.6 0.2	O. Mathematics is made up of unrelated topics.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	10.1 12.2	42.2 49.5	32.4 26.9	13.3 10.0	1.4 1.1
0.4 0.2	P. I really want to do well in mathematics.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.3 1.4	0.9 3.4	3.8 9.2	36.1 50.0	57.6 35.8
0.5 0.2	Q. My parents really want me to do well in mathematics.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	0.6 1.0	0.6 1.9	3.5 9.5	29.9 43.9	64.9 43.5
0.5 0.2	R. I feel good when I solve a mathematics problem by myself.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.2 1.4	3.9 2.2	7.4 6.1	43.8 47.1	43.2 43.0



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RE61051

NAEP #: 5-E61051-92D-23

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:	$\frac{13}{13-02}$	$\frac{17}{08-02}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{218}$	$\frac{17}{202}$
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This exercise asks how you feel about mathematics or mathematics activities. There are no correct answers. The answer choices are "Strongly Disagree," "Disagree," "Undecided," "Agree," or "Strongly Agree." For each part, choose the one response that best describes how you feel about the statement. Be sure to fill in one oval in each box.

A. I am good at mathematics.					
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
1.3	7.6	20.1	57.7	12.8	
2.4	13.5	26.0	47.4	10.5	
B. Mathematics helps a person to think logically.					
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
1.0	4.6	19.2	55.8	18.4	
1.1	5.6	14.1	61.2	17.1	
C. It is important to know mathematics such as algebra or geometry in order to get a good job.					
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
2.2	11.8	13.8	43.5	27.7	
3.6	26.2	19.4	37.6	12.8	
D. It is important to know arithmetic in order to get a good job.					
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
1.3	6.5	9.2	45.7	36.5	
1.0	7.3	7.0	49.0	35.2	



DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

How do you feel about each of these statements?

No Response 0.8 0.8	E. I am taking mathematics only because I have to.				
	Strongly Disagree 18.6 20.0	Disagree 43.6 44.8	Undecided 11.7 8.9	Agree 20.4 21.5	Strongly Agree 5.0 4.0
1.5 1.0	F. New discoveries are seldom made in mathematics.				
	Strongly Disagree 12.4 10.9	Disagree 31.3 40.1	Undecided 24.7 25.0	Agree 25.9 19.9	Strongly Agree 4.1 3.0
0.8 0.5	G. Mathematics is more for boys than for girls.				
	Strongly Disagree 57.7 53.0	Disagree 32.6 38.5	Undecided 5.7 5.5	Agree 2.3 1.9	Strongly Agree 0.9 0.5
0.7 0.4	H. I would like to take more mathematics.				
	Strongly Disagree 10.9 11.9	Disagree 17.8 19.5	Undecided 24.2 27.4	Agree 33.1 29.3	Strongly Agree 13.4 11.5
1.0 0.5	I. Creative people usually have trouble with mathematics.				
	Strongly Disagree 17.6 16.1	Disagree 37.9 44.8	Undecided 30.9 28.5	Agree 10.5 8.2	Strongly Agree 2.0 1.8



DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

How do you feel about each of these statements?

No Response 0.5 0.7	J. Estimating is an important mathematical skill.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.4 1.1	7.8 8.7	16.7 16.4	63.7 64.5	10.4 3.6
0.4 0.4	K. I usually understand what we are talking about in mathematics.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.4 2.3	8.5 14.8	10.4 13.7	64.2 59.4	15.1 9.4
0.7 0.3	L. Trial and error can often be used to solve a mathematics problem.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	4.2 1.1	9.7 8.7	33.1 18.3	41.7 59.6	10.6 12.0
0.3 0.2	M. A good grade in mathematics is important to me.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	0.6 0.8	1.4 4.4	1.9 6.8	36.9 51.5	59.0 35.3
0.4 0.3	N. Justifying the mathematical statements a person makes is an extremely important part of mathematics.				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	1.5 0.9	5.2 3.8	30.7 25.9	49.7 55.5	12.5 13.6



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RE61151

NAEP #: 5-E61151-92D-23

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:	$\frac{13}{14-01}$	$\frac{17}{09-01}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{172}$	$\frac{17}{163}$
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How do you feel about each of these statements about mathematics? Do you disagree or agree? Fill in one oval for each statement. If you neither agree nor disagree, fill in the middle oval under "Undecided."

No
Response
0.4

A. Mathematics is more for boys than for girls.

Disagree
68.3

Undecided
16.6

Agree
14.6

1.3

B. It is important to know some mathematics in order to get a good job.

Disagree
9.1

Undecided
10.5

Agree
79.1

1.2

C. I can get along well in everyday life without using mathematics.

Disagree
69.2

Undecided
15.6

Agree
14.0

0.8

D. I would like to work at a job that lets me use mathematics.

Disagree
19.9

Undecided
26.0

Agree
53.3

0.9

E. Mathematics is useful in solving problems in everyday life.

Disagree
18.0

Undecided
17.6

Agree
63.5

0.8

F. Most people do not use mathematics in their jobs.

Disagree
39.7

Undecided
22.9

Agree
36.5

0.5

G. Mathematics is more for girls than for boys.

Disagree
73.4

Undecided
17.0

Agree
9.1



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE61251

NAEP #: 5-E61251-92D-1

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:

Package-Exercise: $\frac{9}{02-01}$

TOTAL TIME: (in seconds)

$\frac{9}{99}$

How do you feel about each of these statements about mathematics? Are they true about you, sometimes true about you, or not true about you? Fill in one oval for each statement.

No Response	A. I usually understand what we are talking about in mathematics.		
0.9	True about me 45.1	Sometimes true about me 49.2	Not true about me 4.9
1.1	B. I am good at working with numbers.		
	True about me 57.3	Sometimes true about me 37.4	Not true about me 4.3
1.1	C. Doing mathematics makes me nervous.		
	True about me 16.0	Sometimes true about me 34.1	Not true about me 48.8
1.3	D. Mathematics is boring for me.		
	True about me 13.8	Sometimes true about me 32.1	Not true about me 52.8
1.3	E. I am willing to work hard to do well in mathematics.		
	True about me 80.4	Sometimes true about me 14.9	Not true about me 3.5



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE61351

NAEP #: 5-E61351-92D-1

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Type

Overlap:
Package-Exercise: $\frac{9}{03-01}$

TOTAL TIME: (in seconds) $\frac{9}{73}$

How do you feel about these activities in learning mathematics? First, are they easy for you or are they hard for you? Second, do you like to do them, or don't you like to do them? Finally, are they important, or not important? Fill in one oval on each line that describes your feelings about each activity. If you feel the activity is between the two choices, fill in the oval marked "In between."

No
Response

1.5

4.1

3.2

A. Learning about money

Easy

62.8

In between

28.2

Hard

7.6

Like

68.5

In between

19.4

Do not like

8.1

Important

81.2

In between

11.2

Not important

4.4

B. Doing addition problems

Easy

73.9

In between

16.9

Hard

7.7

Like

65.1

In between

20.4

Do not like

10.6

Important

77.6

In between

14.2

Not important

4.9

1.5

3.9

3.2

0000000000



DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

No
Response

C. Solving mathematics word problems

1.2

Easy

41.3

In between

43.0

Hard

14.5

3.3

Like

44.0

In between

30.6

Do not like

22.0

3.7

Important

69.0

In between

21.6

Not important

5.7

D. Learning multiplication or times tables

1.3

Easy

52.3

In between

29.3

Hard

17.1

3.4

Like

60.1

In between

21.6

Do not like

14.9

3.1

Important

80.2

In between

13.3

Not important

3.4

E. Learning how to measure things with a ruler

0.3

Easy

64.2

In between

25.7

Hard

9.3

3.1

Like

57.2

In between

25.7

Do not like

14.0

3.1

Important

69.3

In between

21.0

Not important

6.6



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE61451

NAEP #: 5-E61451-92D-1

Objective: G. Attitudes

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{05-10}$

TOTAL TIME: (in seconds) $\frac{9}{160}$

How do you feel about these activities in learning mathematics? First, do you like them a lot, like them a little, or not like them at all? Second, how much do they help you in learning mathematics? Do they help you a lot, help you a little, or not help you at all? For each activity, fill in one oval on each line that describes how you feel.

No
Response

A. Taking mathematics tests

I like it a lot.

50.1

I like it a little.

35.6

I do not like it.

13.0

It helps me a lot.

79.0

It helps me a little.

13.7

It does not help me.

3.1

B. Doing mathematics homework

I like it a lot.

36.4

I like it a little.

37.2

I do not like it.

24.5

It helps me a lot.

65.9

It helps me a little.

25.0

It does not help me.

4.2

C. Helping a classmate do mathematics

I like it a lot.

50.4

I like it a little.

28.4

I do not like it.

19.4

It helps me a lot.

35.5

It helps me a little.

29.9

It does not help me.

29.9

D. Playing mathematics games

I like it a lot.

80.8

I like it a little.

13.7

I do not like it.

4.1

It helps me a lot.

66.5

It helps me a little.

25.0

It does not help me.

4.5



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

(Continued)

How do you feel about these activities in learning mathematics?

No Response	E. Listening to the teacher explain a mathematics lesson		
	I like it a lot. 45.3	I like it a little. 39.9	I do not like it. 13.0
	It helps me a lot. 72.8	It helps me a little. 20.1	It does not help me. 3.5
2.8	F. Watching the teacher work mathematics problems on the board		
	I like it a lot. 51.8	I like it a little. 35.0	I do not like it. 10.4
	It helps me a lot. 67.1	It helps me a little. 24.2	It does not help me. 5.4
2.9	G. Getting individual help from the teacher on your mathematics		
	I like it a lot. 55.8	I like it a little. 31.0	I do not like it. 10.3
	It helps me a lot. 70.0	It helps me a little. 22.1	It does not help me. 4.8
2.5	H. Getting help from a classmate on mathematics		
	I like it a lot. 35.2	I like it a little. 35.6	I do not like it. 26.6
	It helps me a lot. 37.3	It helps me a little. 37.5	It does not help me. 21.8
1.8	I. Discussing mathematics in class		
	I like it a lot. 52.5	I like it a little. 33.5	I do not like it. 12.2
	It helps me a lot. 61.2	It helps me a little. 27.6	It does not help me. 7.5



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE61551

NAEP #: 5-E61551-92D-1

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:

Package-Exercise: $\frac{9}{04-10}$

TOTAL TIME: (in seconds)

$\frac{9}{200}$

45

43

How often did you do these activities in your high school mathematics courses? Fill in one oval in each box.

No. Response	A. Take mathematics tests	Often 69.8	Sometimes 27.5	Never 2.4
0.3				
	B. Do mathematics homework	Often 65.0	Sometimes 29.2	Never 5.5
0.4				
	C. Help a classmate do mathematics	Often 14.4	Sometimes 72.3	Never 13.0
0.3				
	D. Play mathematics games	Often 3.0	Sometimes 40.4	Never 56.2
0.3				
	E. Listen to the teacher explain a mathematics lesson	Often 77.0	Sometimes 19.1	Never 3.5
0.3				
	F. Watch the teacher work mathematics problems on the board	Often 78.5	Sometimes 18.7	Never 2.5
0.3				

0000000000



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

(Continued)

How often did you do these activities in your high school mathematics courses?

No Response 0.2	G. Get individual help from the teacher on your mathematics	Often 16.6	Sometimes 72.1	Never 11.1
0.1	H. Make reports or do projects on mathematics	Often 1.8	Sometimes 22.2	Never 75.8
0.1	I. Work ahead in your mathematics book	Often 6.6	Sometimes 42.0	Never 51.2
0.1	J. Do mathematics problems that are not assigned	Often 3.8	Sometimes 40.0	Never 56.1
0.2	K. Get help in mathematics from a classmate	Often 16.8	Sometimes 73.6	Never 9.3
0.2	L. Study mathematics topics that aren't in the textbook	Often 3.0	Sometimes 31.7	Never 65.1
0.2	M. Discuss mathematics in class	Often 50.2	Sometimes 41.9	Never 7.7



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

(Continued)

How often did you do these activities in your high school mathematics courses?

No Response 0.1	N. Work mathematics problems at the board	Often 25.5	Sometimes 63.3	Never 11.1
0.2	O. Work mathematics problems in small groups	Often 7.8	Sometimes 55.7	Never 36.3
0.1	P. Work mathematics problems alone	Often 81.4	Sometimes 17.2	Never 1.2
0.1	Q. Do mathematics laboratory activities	Often 2.3	Sometimes 17.4	Never 80.2
0.1	R. Choose what mathematics you wanted to study	Often 20.1	Sometimes 34.4	Never 45.4
0.1	S. Use a mathematics textbook	Often 88.2	Sometimes 9.7	Never 2.0



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE61951

NAEP #: 5-E61951-92D-3

Objective: G. Attitudes

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap: $\frac{17}{07-01}$
Package-Exercise:

TOTAL TIME: (in seconds) $\frac{17}{176}$

No
Response
0.2
0.1

A. Have you ever studied mathematics through computer instruction?

Yes	No	I don't know
23.5 18.9	69.4 79.2	6.9 1.7

B. Do you think computers are useful for teaching mathematics?

Yes	No	I don't know
73.0 76.5	15.0 11.7	11.8 11.6

C. Do you have access to a computer terminal in your school for learning mathematics?

Yes	No	I don't know
22.7 49.3	52.6 30.5	24.3 19.7

D. 1. Do you know how to program a computer?

Yes	No	I don't know
19.9 21.5	73.6 75.8	6.4 2.6

2. If yes, what programming language do you know?

22.0	20.2	BASIC
0.5	0.3	ALGOL
1.6	0.7	FORTRAN
0.7	0.2	APL
10.0	3.7	Other

65.1 75.0

0000000000

50



DO NOT CONTINUE
UNTIL TOLD TO DO SO

48

(Continued)

E. Do you think computer programming is a good topic to study in a mathematics class?			
No Response	Yes	No	I don't know.
0.3	66.3	19.3	14.0
0.2	80.7	11.6	7.5

F. Have you ever used a computer to

	Yes	No	I don't know.
1. solve a linear programming problem?	9.7 10.2	78.2 85.6	10.6 3.6
2. solve a mathematical problem?	55.6 51.1	31.8 47.5	1.7 0.7
3. play a game?	80.4 80.1	17.7 18.8	1.0 0.4
4. process business, scientific, or social information?	11.7 19.1	82.3 78.8	4.4 1.4
5. perform statistical analysis of data?	10.0 16.1	76.8 80.9	12.0 2.4

G. Have you ever written a computer program to

	Yes	No	I don't know.
1. solve a linear programming problem?	5.4 7.2	83.7 89.5	9.5 2.7
2. solve a mathematical problem?	39.6 24.2	54.1 73.7	5.6 1.6
3. play a game?	41.7 26.3	52.3 71.1	5.0 1.8
4. process business, scientific, or social information?	7.5 10.0	86.0 87.5	5.2 1.7
5. perform statistical analysis of data?	7.1 10.1	81.5 87.3	10.1 2.1



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RE80511

NAEP #: 5-E80511-92D-23

Content
Objective: F. Technology

Process
Objective: Computer Literacy

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{14-02}$	$\frac{17}{13-01}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{143}$	$\frac{17}{163}$

BACKGROUND QUESTIONS--This exercise was included in every package for intended use as a background variable.

For each of the following questions, fill in one oval in each box.

No Response 0.4	A. The metric system uses units like centimeters, liters and kilograms. Have you used the metric system of measurement?			
	Yes 62.5	No 25.0	I don't know. 12.1	
0.8	B. How often have you used the metric system in mathematics?			
	Often 17.8	Sometimes 50.9	Never 21.6	I don't know. 9.0
0.5	C. How often have you used a hand calculator?			
	Often 27.4	Sometimes 42.4	Never 23.3	I don't know. 2.4
0.6	D. Do you or your family own a hand calculator?			
	Yes 82.7	No 13.8	I don't know. 2.8	
0.3	E. Does your school have hand calculators that you can use in mathematics class?			
	Yes 9.6	No 82.2	I don't know. 7.8	

This exercise was not developed to be a direct measure of the math objectives



BACKGROUND QUESTIONS--This exercise was included in every package for intended use as a background variable.

Which of the following mathematics courses have you studied? Fill in one oval on each line. (If you have not studied a particular course, fill in the oval under "Not Studied".)

No Response		Studied 1 school year	Studied $\frac{1}{2}$ school year	Studied less than $\frac{1}{2}$ year	Not studied	I don't know
1.5	A. General, Business or Consumer Mathematics	42.6	7.4	2.5	43.5	2.5
1.8	B. Introduction to Algebra (Pre-Algebra)	37.7	6.6	5.9	46.0	1.9
1.1	C. 1st year Algebra	66.4	4.5	1.5	26.0	0.5
3.1	D. 2nd year Algebra	31.0	7.4	1.2	56.5	0.8
1.7	E. Geometry	46.2	5.6	3.1	42.8	0.7
3.7	F. Trigonometry	7.4	6.4	4.7	76.9	0.9
4.1	G. Probability & Statistics	1.7	2.3	5.9	83.1	3.0
3.1	H. Computer Programming	4.7	5.0	4.4	81.8	0.9
3.3	I. Pre-Calculus/Calculus	2.7	1.5	1.1	89.9	1.6

This exercise was not developed to be a direct measure of the Math Objectives.

0000000000



BACKGROUND QUESTIONS--This exercise was included in every package for intended use as a background variable.

For each of the following questions, fill in one oval in each box.

No
Response
0.3

A. The metric system of measurement uses units like centimeters, liters, and kilograms. How often have you used the metric system?

Often	Seldom	Never	I don't know.
30.7	58.4	7.5	3.1

0.3

B. How often do you use a hand calculator?

Almost Daily	A few times a week	Less than once a week	Once a month	Never	I don't know.
6.4	19.4	21.0	25.3	23.0	4.4

0.4

C. Does your school provide hand calculators for use in mathematics class?

Yes	No	I don't know.
7.4	88.3	4.5

This exercise was not developed to be a direct measure of the Math Objectives.

0000000000

55



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

BACKGROUND QUESTIONS--This exercise was included in every package for intended use as a background variable.

For each of the following questions, fill in one oval in each box.

No Response 0.4	A. The metric system of measurement uses units like centimeters, liters, and kilograms. How often have you used the metric system of measurement?					
	Often 19.1	Seldom 61.8	Never 16.9	I don't know. 1.8		
0.3	B. How often do you use a hand calculator?					
	Almost Daily 19.2	A few times a week 24.8	Less than once a week 18.0	Once a month 20.1	Never 14.9	I don't know. 2.6
0.3	C. Does your school provide hand calculators for use in mathematics classes?					
	Yes 10.3	No 83.3	I don't know. 6.1			
0.3	D. Does your school provide hand calculators for use in other classes?					
	Yes 16.0	No 72.4	I don't know. 11.3			

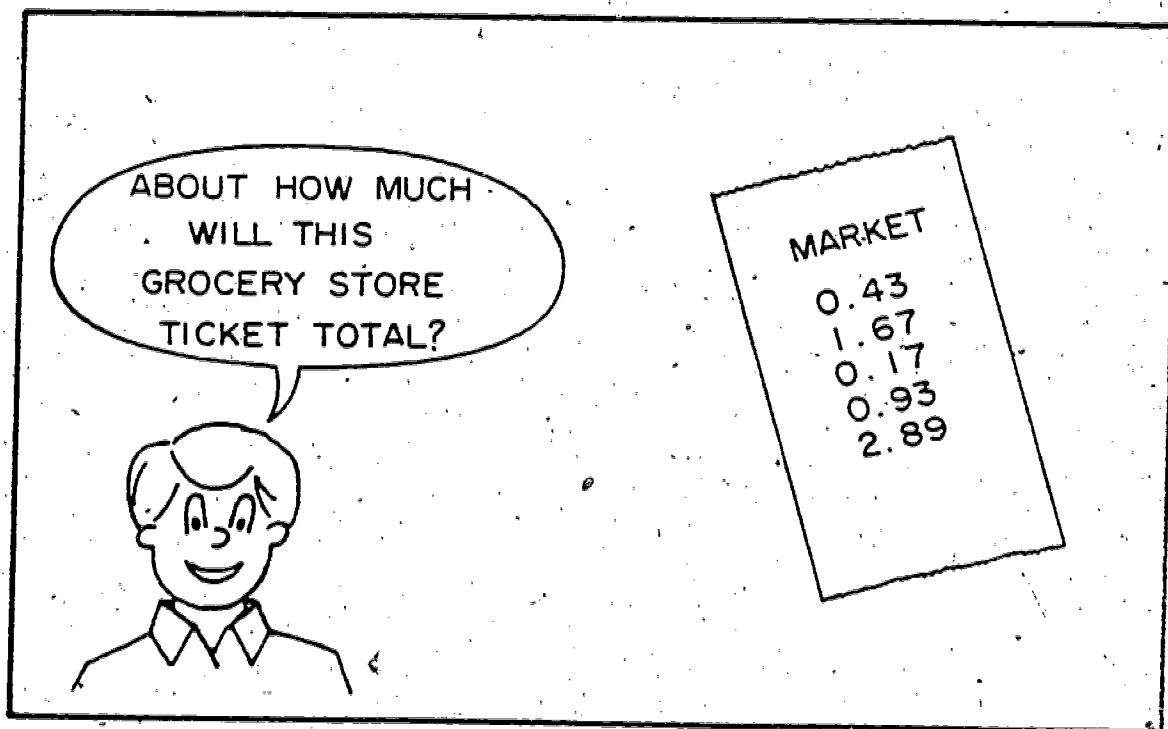
This exercise was not developed to be a direct measure of the Math Objectives.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

APPENDIX B

Released
Cognitive Exercises
With
Scoring Guides
1981-82
Assessment



- ☐ Between \$3 and \$4
- ☐ Between \$6 and \$7
- ☐ Between \$9 and \$10
- ☐ Between \$12 and \$15

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA00944

NAEP #: 5-A00944-D1D-23

Content Objective: A. Number and Numeration

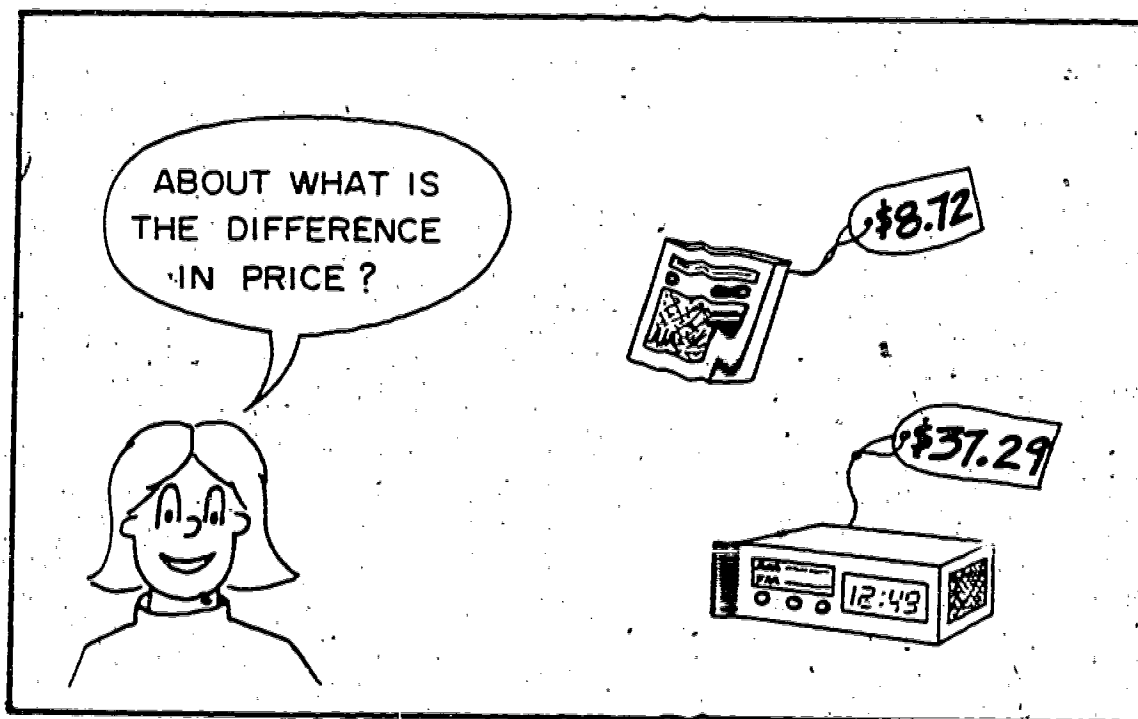
Process Objective: Applications of Estimation

Exercise Type: Multiple-choice

Stimulus Type: Text

Overlap:	$\frac{13}{11-14}$	$\frac{17}{14-14}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{14}$	$\frac{17}{14}$
--------------------------	-----------------	-----------------



- ☐ \$29
- ☐ \$31
- ☐ \$45
- ☐ \$46

☐ I don't know.

60



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

0000000000

58

AD11611D-24

Report #: RA01744

NAEP #: 5-A01144-D1D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Estimation

Exercise Type: Multiple-choice
Stimulus Type: Text

Overlap:	$\frac{13}{11-13}$	$\frac{17}{14-13}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{14}$	$\frac{17}{14}$


☐

2

☐

3

☒

4

☐

5

☐

I don't know.



DO NOT CONTINUE
UNTIL YOU HEAR SO

62

60

Report #: RA02444

NAEP #: 5-A02444-D1D-23

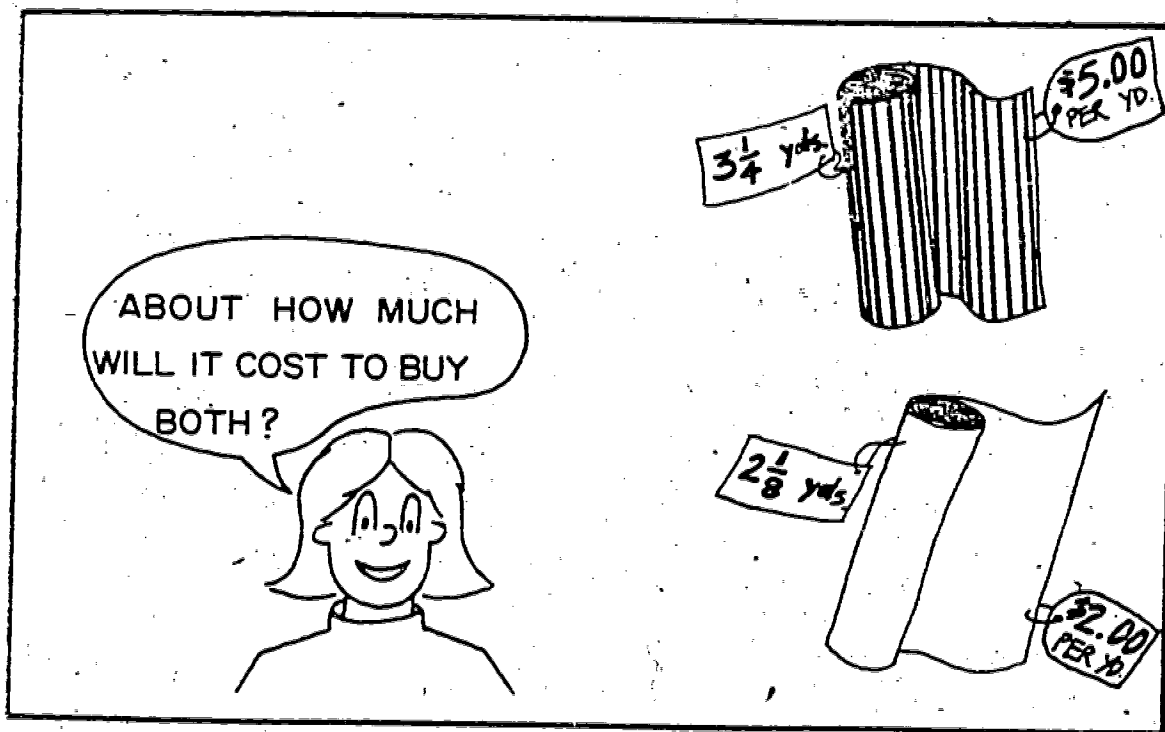
Content
Objective: A. Number and Numeration

Process
Objective: Applications of Estimation

Exercise Type: Multiple-choice
Stimulus Type: Text

Overlap:
Package-Exercise: $\frac{13}{11-12}$ $\frac{17}{14-12}$

TOTAL TIME: (in seconds) $\frac{13}{14}$ $\frac{17}{14}$



- ☐ \$6
- ☐ \$12
- ☒ \$20
- ☐ \$25
- ☐ \$50
- ☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

64

62

Report #: RA02844

NAEP #: 5-A02844-D1D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Estimation

Exercise Type: Multiple-choice
Stimulus Type: Text

Overlap:	$\frac{13}{11-11}$	$\frac{17}{14-11}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{14}$	$\frac{17}{14}$

How is 3,482,000 written in scientific notation?

☐ 3×10^6

☐ 3482×10^3

☒ 3.482×10^6

☐ 3.482×10

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA11111

NAEP #: 5-A11111-92D-3

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 07-12

TOTAL TIME: (in seconds) 17
21

67

A. What is the number in the box?

- ☐ thirteen
- ☐ forty-two
- ☐ fifty-seven
- ☒ sixty-seven
- ☐ seventy-six

- ☐ I don't know.

243

B. What is the number in the box?

- ☐ three hundred forty-two
- ☐ four hundred twenty-three
- ☐ six hundred forty-three
- ☒ two hundred forty-three
- ☐ two hundred thirty-four

- ☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

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Report #: RA11431

NAEP #: 5-A11431-92D-1

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge
Stimulus Type: Text/Tape

Overlap: $\frac{9}{01-01}$
Package-Exercise:

TOTAL TIME: (in seconds) $\frac{9}{50}$

Which one of the following is the same as $\frac{1}{3}$?

☐ $\frac{3}{2}$

☐ $\frac{4}{5}$

☒ $\frac{2}{6}$

☐ $\frac{5}{3}$

☐ I don't know.

0000000000

5-A11-22-92D-1.2

68 70



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA11832

NAEP #: 5-A11832-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Computation

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{02-17}$	$\frac{13}{10-35}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{9}{26}$	$\frac{13}{16}$
--------------------------	----------------	-----------------

A. Which decimal is equal to $\frac{1}{4}$?

☐ .14

☒ .25

☐ .4

☐ .41

☐ .5

☐ I don't know.

B. Which decimal is equal to $\frac{3}{8}$?

☒ .375

☐ .428571

☐ .66

☐ .77

☐ .83

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO

72
70

(Continued)

C. Which decimal is equal to $\frac{5}{6}$?

☐ .375

☐ .428571 ✓

☐ .66

☐ .77

☒ .83

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA12632

NAEP #: 5-A12632-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Computation

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{09-22}$	$\frac{17}{09-31}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{69}$	$\frac{17}{61}$
--------------------------	-----------------	-----------------

A. What does the 5 stand for in the number in the box?

3,517

☐ 5 ones

☐ 5 tens

☒ 5 hundreds

☐ 5 thousands

☐ I don't know.

B. What does the 2 stand for in the number in the box?

233

☐ 2 ones

☐ 2 tens

☒ 2 hundreds

☐ 2 thousands

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

75

73

Report #: RA14411

NAEP #: 5-A14411-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{04-15}$	$\frac{13}{07-11}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{9}{42}$	$\frac{13}{38}$
--------------------------	----------------	-----------------

Frank has a motorcycle that requires him to mix the oil with the gasoline. It takes $\frac{1}{2}$ pint of oil for every gallon of gasoline. If he wishes to put in $1\frac{1}{2}$ gallons of gasoline, how much oil will he need?

- ☐ $\frac{1}{2}$ pint oil
- ☐ $\frac{2}{3}$ pint oil
- ☒ $\frac{3}{4}$ pint oil
- ☐ 1 pint oil
- ☐ I don't know.

nnnnnnnnnn



Report #: RA21841

NAEP #: 5-A21841-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-10}$	$\frac{17}{12-28}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{17}{50}$	$\frac{13}{40}$
--------------------------	-----------------	-----------------

Write in decimal form:

A. Six and three-thousandths

ANSWER _____

B. Forty-two ten-thousandths

ANSWER _____

C. Eight and six-hundredths

ANSWER _____

	A	B	C
1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	<input type="text"/>	<input type="text"/>	<input type="text"/>



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA24031

NAEP #: 5-A24031-92D-23

Content Objective: A. Number and Numeration

Process Objective: Knowledge

Exercise Type: Open-ended
Stimulus Type: Text/Type

Overlap:	$\frac{13}{08-40}$	$\frac{17}{10-25}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{56}$	$\frac{17}{53}$
--------------------------	-----------------	-----------------

5-A24031-92D-2,3
SCORING GUIDE: PARTS A & B

Categories are listed below.

PART A:

- 11 = 6.003
- 20 = OTHER
- 21 = 6 3/1000
- 22 = 63,000
- 23 = 6300
- 24 = 6.0003
- 25 = 6.03
- 26 = 6.3 OR 6.30
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

PART B:

- 11 = .0042
- 20 = OTHER
- 21 = 42/10,000
- 22 = 42,000
- 23 = 4200
- 24 = .00042
- 25 = .042
- 26 = THE DIGITS 421 WITH THE DECIMAL IN ANY POSITION TO THE RIGHT OF THE 4 (4.21, 4210, 421000, ETC.)
- 27 = THE DIGITS 421 WITH THE DECIMAL IN ANY POSITION TO THE LEFT OF THE 4 (.421, .0421, .00421, ETC.)
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

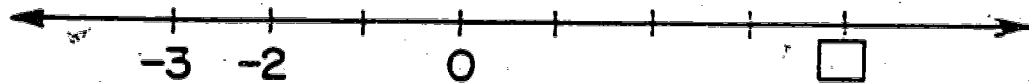
SCORING GUIDE: PART C

Categories are listed below.

PART C:

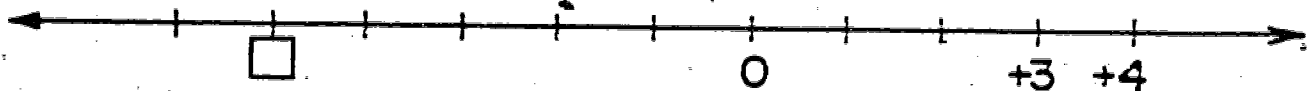
- 11 = 8.06
- 20 = OTHER
- 21 = 8 6/100
- 22 = 86000
- 23 = 8600
- 24 = 860
- 25 = 8.006
- 26 = 8.6 OR 8.600
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

A. What number should be placed in the ?



ANSWER _____

B. What number should be placed in the ?



ANSWER _____

	A	B
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA24431

NAEP #: 5-A24431-92D-23

Content

Objective: A. Number and Numeration

Process

Objective: Understanding

Exercise Type: Open-ended

Stimulus Type: Text/Tape

Overlap:

Package-Exercise:

$\frac{13}{13-15}$

$\frac{17}{10-24}$

TOTAL TIME: (in seconds)

$\frac{13}{36}$

$\frac{17}{36}$

5-A24431-92D-2,3

SCORING GUIDE: PARTS A & B

Categories are listed below.

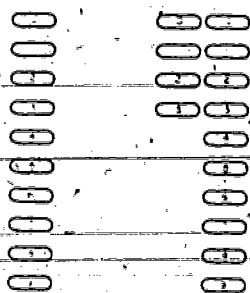
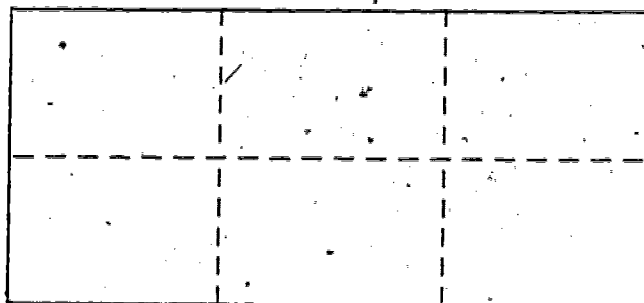
PART A:

- 11 = 4 OR +4
20 = OTHER
21 = -4
22 = -3
23 = 5
24 = 1
77 = I DON'T KNOW.
88 = NO RESPONSE

PART B:

- 11 = -5
20 = OTHER
21 = 5
22 = -4
23 = -6
24 = 4
25 = 7
77 = I DON'T KNOW.
88 = NO RESPONSE

Shade $\frac{2}{3}$ of the rectangle below.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA25432

NAEP #: 5-A25432-92D-1

Content
Objective: A. Number and Numeration

Process
Objective: Understand

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{02-13}$

TOTAL TIME: (in seconds) $\frac{9}{28}$

5-A25432-92D-1
SCORING GUIDE

Categories are listed below.

- 11 = ANY FOUR OF THE SIX CELLS SHADED
- 12 = TWO-THIRDS OF THE LARGE RECTANGLE CORRECTLY SHADED IN SOME MANNER OTHER THAN CATEGORY 11
- 13 = OUTLINED $\frac{2}{3}$ OF THE RECTANGLE BUT DID NOT SHADE
- 20 = OTHER
- 21 = PARTIAL SHADING IN 4 CELLS
- 22 = TWO OF THE SIX CELLS SHADED OR PARTIALLY SHADED
- 23 = SHADED 2 CELLS AND A PART OF A THIRD CELL
- 24 = $\frac{1}{2}$, (3 CELLS) SHADED OR PARTIALLY SHADED
- 25 = $\frac{1}{6}$ OR $\frac{5}{6}$ (1 OR 5 CELLS) SHADED OR PARTIALLY SHADED
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

Round the following number to the nearest hundred:

4873

ANSWER _____

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

89.

87

5-A35632-J3D-1
5-C70009-1

Report #: RA25632

NAEP #: 5-C70009-43D-1

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Computation

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{03-03}$

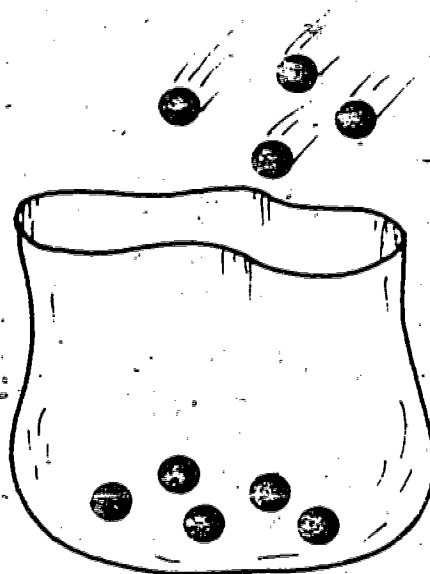
TOTAL TIME: (in seconds) $\frac{9}{24}$

1981-82 N0303
1977-78 N0638
1972-73 N0623

5-A25632-43D-1
5-C70009-1
SCORING GUIDE

Categories are listed below.

- 11 = 4900
- 20 = OTHER
- 21 = 4800
- 22 = 5000
- 23 = 4973
- 24 = 900 OR 9
- 25 = 999 OR 99
- 26 = 8, 800 OR CIRCLES 8
- 27 = 4903
- 28 = 5873
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE



This picture shows two sets being joined together. What number sentence tells about this picture?

☐ $4 \times 5 = \square$

☐ $5 - 4 = \square$

☒ $4 + 5 = \square$

☐ $5 - \square = 4$

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

/ Report #: RA30731

NAEP #: 5-A30731-92D-12

Content Objective: A. Number and Numeration

Process Objective: Understanding

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{04-28}$	$\frac{13}{07-17}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{9}{38}$	$\frac{13}{27}$
--------------------------	----------------	-----------------

ESTIMATE the answer to each of the problems on this and the next page. You will not be given enough time to calculate each answer using paper and pencil. Fill in the oval next to the answer CLOSEST to your ESTIMATE.

A. $347.0 + 938.0 + 1.327$

☐ 100

☒ 1000

☐ 10000

☐ 100000

☐ I don't know.

B. $.01 + .0001 + .0000009$

☐ 1

☒ .01

☐ .00011

☐ .1

☐ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

C. $.34181 + .76062$

☐ .90

☐ 1.00

☒ 1.10

☐ 1.20

☐ I don't know.

95



DO NOT CONTINUE
UNTIL TOLD TO DO SO

93

Report #: RA32732

NAEP #: 5-A32732-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Estimation

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	07-34	12-15

TOTAL TIME: (in seconds)	<u>13</u>	<u>17</u>
	71	80

Divide.

A. 3 304

ANSWER. _____

B. 5 150

ANSWER _____

C. 12. 2496

ANSWER _____

A

B

C

0000000000

0	0
1	1
2	2
3	3
	4
	5
	6
	7
	8

0 1 2 3 4 5 6 7 8 9

100

97



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA32921

NAEP #: 5-A32921-D1D-2

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Computaton

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap: 13
Package-Exercise: 13-16

TOTAL TIME: (in seconds) 13
68

5-A32921-D1D-2
SCORING GUIDE: PART A

Categories are listed below.

PART A:

- 11 = $101.\bar{3}$ or 101.33
- 12 = 101 R 1
- 13 = $101\frac{1}{3}$
- 14 = 101.3, 101.33 OR 101.333...
- 20 = OTHER
- 21 = .00098684 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED
3 DIVIDED BY 304
- 22 = 101
- 23 = 11, $11\frac{1}{3}$, 11.33 OR 11 R 1
- 24 = 10.333... OR 1.333 OR OTHER DECIMAL PLACEMENT
- 25 = 101 R 3 OR 101 R 33
- 26 = 3304 OR 3043
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

SCORING GUIDE: PART B

Categories are listed below.

- 11 = 30
- 20 = OTHER
- 21 = 0.0333...
- 22 = .333... AND OTHER DECIMAL PLACEMENT EXCEPT CATEGORY 21
- 23 = 5150 OR 1505
- 24 = 750 OR ATTEMPTED 150×5
- 25 = 3
- 26 = 150 OR 5
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

SCORING GUIDE: PART C

Categories are listed below.

11 = 208

20 = OTHER

21 = 0.0048076 OR ATTEMPTED 12 DIVIDED BY 2496

22 = 48076923 OR .48076 OR OTHER DECIMAL PLACEMENT EXCEPT CATEGORY 21

23 = 122496 OR 249612

24 = 29,952 OR ATTEMPTED 2496×12

25 = 20.8, 2.08 OR .208

26 = 28

27 = 2 R 96

77 = I DON'T KNOW

88 = NO RESPONSE

3-304

$$5 \overline{) 150}$$

12 2496

AC

100

10 9 8 7 6 5 4 3 2 1

2	2
1	1
2	2
1	1
	4
	3
	4
	7
	6
	3

102



Report #: RA3292 1K

NAEP #: 5-A3292 1K-D1D-123

Content
Objective: F. Technology

Process
Objective: Hand Held Calculator

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{06-16}$	$\frac{13}{11-25}$	$\frac{17}{14-26}$
Package-Exercise:			
TOTAL TIME: (in seconds)	$\frac{9}{93}$	$\frac{13}{68}$	$\frac{17}{48}$

5-A32921KD1D-1,2,3
SCORING GUIDE: PART A

Categories are listed below.

PART A:

- 11 = ~~101.3~~ or 101.33
- 12 = 101 R 1
- 13 = 101 $1/3$
- 14 = 101.3, 101.33 OR 101.333...
- 20 = OTHER
- 21 = .00098684 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED
3 DIVIDED BY 304
- 22 = 101
- 23 = 11, 11 $1/3$, 11.33 OR 11 R 1
- 24 = 10.333... OR 1.333 OR OTHER DECIMAL PLACEMENT
- 25 = 101 R 3 OR 101 R 33
- 26 = 3304 OR 3043
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

SCORING GUIDE: PART B

Categories are listed below.

- 11 = 30
- 20 = OTHER
- 21 = 0.0333...
- 22 = .333... AND OTHER DECIMAL PLACEMENT EXCEPT CATEGORY 21
- 23 = 5150 OR 1505
- 24 = 750 OR ATTEMPTED 150×5
- 25 = 3
- 26 = 150 OR 5
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

SCORING GUIDE: PART C

Categories are listed below.

- 11 = 208
- 20 = OTHER
- 21 = 0.0048076 OR ATTEMPTED 12 DIVIDED BY 2496
- 22 = 48076923 OR .48076 OR OTHER DECIMAL PLACEMENT EXCEPT CATEGORY 21
- 23 = 122496 OR 249612
- 24 = 29,952 OR ATTEMPTED 2496×12
- 25 = 20.8, 2.08 OR .208
- 26 = 28
- 27 = 2 R 96
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

$$\begin{array}{r} 5049 \\ -3892 \\ \hline \end{array}$$

The answer to this subtraction problem is closest to:

- ☒ 1000
- ☐ 2000
- ☐ 3000
- ☐ 9000
- ☐ I don't know.

0000000000

107



DO NOT CONTINUE
UNTIL TOLD TO DO SO

105

Report #: RA34032

NAEP #: 5-A34032-92D-123

Content Objective: A. Number and Numeration

Process Objective: Skill in Estimation

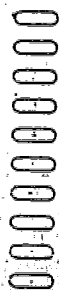
Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{04-23}$	$\frac{13}{08-29}$	$\frac{17}{08-03}$
Package-Exercise:			

TOTAL TIME: (in seconds)	$\frac{9}{21}$	$\frac{13}{21}$	$\frac{17}{13}$
--------------------------	----------------	-----------------	-----------------

During a race around the school, Stacy's time was 26 seconds. Tommy's time was 39 seconds. How many seconds faster was Stacy than Tommy?

ANSWER _____



109

107



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA34342

NAEP #: 5-A34342-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	<u>9</u>	<u>13</u>
Package-Exercise:	01-08	12-03

TOTAL TIME: (in seconds)	<u>9</u>	<u>13</u>
	36	31

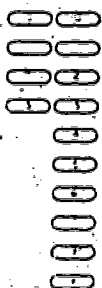
5-A34342-92D-1,2
SCORING GUIDE

Categories are listed below.

- 11 = 13
- 20 = OTHER
- 21 = ATTEMPTED 39 - 26 WITH NO OR WRONG ANSWER
- 22 = 65 OR ATTEMPTED 39 + 26
- 23 = 39
- 77 = I DON'T KNOW.
- 38 = NO RESPONSE

Pam has $4\frac{3}{4}$ cups of flour. If she uses $2\frac{1}{2}$ cups to make a cake, how much flour will she have left?

ANSWER _____



112

110



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA35241

NAEP #: 5-A35241-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-18}$	$\frac{17}{12-35}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{34}$	$\frac{17}{34}$
--------------------------	-----------------	-----------------

5-A35241-92D-2,3
SCORING GUIDE

Categories are listed below.

- 11 = $2 \frac{1}{4}$ OR 2.25 WITH OR WITHOUT CUPS
- 20 = OTHER
- 21 = $7 \frac{1}{4}$ OR ATTEMPTED $4 \frac{3}{4} + 2 \frac{1}{2}$
- 22 = $2 \frac{2}{2}$ OR 3
- 23 = $2 \frac{1}{2}$ OR $2 \frac{2}{4}$
- 24 = 2
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

On the same day, the highest temperature at Nome, Alaska, was 28 degrees below zero, and the highest temperature at Miami, Florida, was 78 degrees above zero. What was the difference between the two temperatures?

ANSWER. _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

115
113

Report #: RA36341

NAEP #: 5-A36341-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-40}$	$\frac{17}{13-13}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{50}$	$\frac{17}{34}$
--------------------------	-----------------	-----------------

5-A36341-92D-2,3
SCORING GUIDE

Categories are listed below.

- 11 = 106
- 20 = OTHER
- 21 = 96
- 22 = 50 OR ATTEMPTED 78 - 28
- 23 = ATTEMPTED 78 + 28 OR 78 - (-28) WITH NO OR WRONG ANSWER
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____



DO NOT
CONTINUE
UNTIL TOLD
TO DO SO.

Report #: RA36511

NAEP #: 5-A36511-92D-1

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge of Basic Number Facts

Exercise Type: Open-ended
Stimulus Type: Tape

Overlap:
Package-Exercise: $\frac{9}{02-09}$

TOTAL TIME: (in seconds) $\frac{9}{42}$

5-A36511-92D-1
SCORING GUIDE: PARTS A & B

Categories are listed below.

PART A:

- 11 = 7
20 = OTHER
21 = 6 + 1
22 = 6
23 = 8
77 = I DON'T KNOW.
88 = NO RESPONSE

PART B:

- 11 = 7
20 = OTHER
21 = 3 + 4
22 = 6
23 = 8
77 = I DON'T KNOW.
88 = NO RESPONSE

SCORING GUIDE: PARTS C & D

Categories are listed below.

PART C:

11 = 9

20 = OTHER

21 = 2 + 7

22 = 8

23 = 10

77 = I DON'T KNOW.

88 = NO RESPONSE

PART D:

11 = 14

20 = OTHER

21 = 6 + 8

22 = 13

23 = 15

77 = I DON'T KNOW.

88 = NO RESPONSE

SCORING GUIDE: PARTS E & F

Categories are listed below.

PART E:

11 = 12

20 = OTHER

21 = 9 + 3

22 = 11

23 = 13

77 = I DON'T KNOW.

88 = NO RESPONSE

PART F:

11 = 13

20 = OTHER

21 = 6 + 7

22 = 12

23 = 14

77 = I DON'T KNOW.

88 = NO RESPONSE

Six simple subtraction problems will be read to you. Write only the ANSWERS in the spaces provided.

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

A

E

F



DO NOT
CONTINUE
UNTIL TOLD
TO DO SO.

Report #: RA37111

NAEP #: 5-A37111-92D-1

Content
Objective: A. Number and Numeration

Process
~~Objective: Knowledge of Basic Number Facts~~

Exercise Type: Open-ended
Stimulus Type: Tape

Overlap:
Package-Exercise: $\frac{9}{05-23}$

TOTAL TIME: (in seconds) $\frac{9}{44}$

5-A37111-92D-1
SCORING GUIDE: PARTS A & B

Categories are listed below.

PART A:

11 = 6
20 = OTHER
21 = 7 - 1
22 = 5
23 = 7
24 = 8
77 = I DON'T KNOW.
88 = NO RESPONSE

PART B:

11 = 3
20 = OTHER
21 = 8 - 5
22 = 2
23 = 4
24 = 13
77 = I DON'T KNOW.
88 = NO RESPONSE

SCORING GUIDE: PARTS C & D

Categories are listed below.

PART C:

11 = 5

20 = OTHER

~~21 = 12 - 7~~

22 = 4

23 = 6

24 = 19

77 = I DON'T KNOW.

88 = NO RESPONSE

PART D:

11 = 7

20 = OTHER

21 = 16 - 9

22 = 6

23 = 8

24 = 25

25 = NOT USED

26 = 5

77 = I DON'T KNOW.

88 = NO RESPONSE

SCORING GUIDE: PARTS E & F

Categories are listed below.

PART E:

11 = 7
20 = OTHER
21 = 9 - 2
22 = 6
23 = 8
24 = 11
77 = I DON'T KNOW.
88 = NO RESPONSE

PART F:

11 = 6
20 = OTHER
21 = 13 - 7
22 = 5
23 = 7
24 = 20
77 = I DON'T KNOW.
88 = NO RESPONSE

George had $\frac{3}{4}$ of a pie. He ate $\frac{3}{5}$ of that. How much pie did he eat?

☐ $\frac{3}{20}$

☐ $\frac{3}{10}$

☒ $\frac{9}{20}$

☐ $\frac{6}{9}$

☐ $\frac{5}{4}$

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA42241

NAEP #: 5-A42241-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	13	17
Package-Exercise:	12-31	09-16

TOTAL TIME: (in seconds)	13	17
	37	28

What is the correct placement of the decimal point in each of the following multiplication problems?

A. $76.5 \times 8.23 =$

☐ 629595.

☒ 629.595

☐ 62.9595

☐ 6295.95

☐ I don't know.

B. $.0055 \times 32456$

☐ 17850.80

☒ 17.85080

☐ 1785.080

☐ 178.5080

☐ I don't know.

C. $.3 \times .2 =$

☐ 6.

☐ 60.

☐ .6

☒ .06

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA42832

NAEP #: 5-A42832-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Skill in Computation

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-32}$	$\frac{17}{08-22}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{65}$	$\frac{17}{53}$

A. What is 10% of 50?

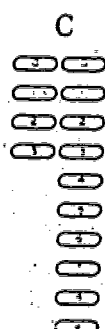
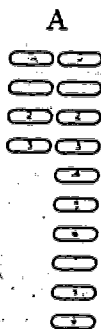
ANSWER _____

B. What is 60% of 50?

ANSWER _____

C. What is 75% of 12?

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

132
130

Report #: RA44621

NAEP #: 5-A44621-D1D-2

Content Objective: A. Number and Numeration

Process Objective: Skill in Computation

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap: 13
Package-Exercise: 14-13

TOTAL TIME: (in seconds) 13
57

5-A44621-D1D-2
SCORING GUIDE: PART A

PART A:

- 11 = 5, 5.0 OR EQUIVALENT
20 = OTHER
21 = 4
22 = 10
23 = 2
24 = 500% WITH OR WITHOUT LABEL
25 = 60% WITH OR WITHOUT LABEL
26 = 40% WITH OR WITHOUT LABEL
27 = 20%
28 = $1/5$, .2 OR EQUIVALENT
29 = 5%
77 = I DON'T KNOW
88 = NO RESPONSE

SCORING GUIDE: PART B

Categories are listed below.

- 11 = 30
- 20 = OTHER
- 21 = 10 OR 1
- 22 = 3 OR 3.0
- 23 = 60
- 24 = 12
- 25 = 3000% WITH OR WITHOUT LABEL
- 26 = 120% WITH OR WITHOUT LABEL
- 27 = 110% OR 11% WITH OR WITHOUT LABEL
- 28 = $\frac{5}{6}$, .83, $\frac{50}{60}$, $\frac{6}{5}$, $\frac{60}{50}$, $1\frac{1}{5}$
- 29 = 30%
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

SCORING GUIDE: PART C

Categories are listed below.

- 11 = 9, 9.0 OR EQUIVALENT
- 20 = OTHER
- 21 = 25
- 22 = 8
- 23 = 6
- 24 = 3
- 25 = 900% WITH OR WITHOUT LABEL
- 26 = 87% WITH OR WITHOUT LABEL
- 27 = 63% WITH OR WITHOUT LABEL
- 28 = 12/75, 75/12, 4/25 OR 25/4
- 29 = 9%
- 77 = I DON'T KNOW
- 88 = NO RESPONSE

Which one of the following means "six used as a factor five times"?

☐ 5^6

☒ 6^5

☐ $6 + 6 + 6 + 6 + 6$

☐ $5 + 5 + 5 + 5 + 5 + 5$

☐ I don't know.

137

134



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA46232

NAEP #: 5-A46232-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{14-25}$	$\frac{17}{10-13}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{20}$	$\frac{17}{15}$
--------------------------	-----------------	-----------------

A store is offering a discount of 15 percent on fishing rods. What is the amount a customer will save on a rod regularly priced at \$25.00?

ANSWER _____

0000000000

0000000000

139
136



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA47344

NAEP #: 5-C50002-43D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{09-38}$	$\frac{17}{09-08}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{41}$	$\frac{17}{40}$
--------------------------	-----------------	-----------------

1981-82 T0938 S0908
 1977-78 T0734 S0709
 1972-73 T0703 S0719

5-A47344-43D-2,3
 5-C50002-2,3

SCORING GUIDE

Categories are listed below.

- 1 = \$3.75, 3.75 OR 375¢
- 0 = OTHER
- 1 = 21.25 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $25 \times .85$,
25 - (25 \times .15) OR 25 - 3.75
- 2 = \$10, 10, -10, 24.85 OR ATTEMPTED 25 - 15 OR 25 - .15
- 3 = \$15, 15, .15 OR 15¢
- 4 = 166, 1.66, 1.67, 1.6 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED
 $15 \overline{)25}$
- 5 = .6 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $25 \overline{)15}$
- 6 = 11.11 OR OTHER DECIMAL PLACEMENT
- 7 = \$3.75¢, 375 WITHOUT ¢, OTHER DECIMAL PLACEMENT OF 3.75 OTHER
THAN CATEGORY 11 OR ATTEMPTED $25 \times .15$ WITH NO OR WRONG ANSWER
- 7 = I DON'T KNOW.
- 8 = NO RESPONSE

A store is offering a discount of 15 percent on fishing rods. What is the amount a customer will save on a rod regularly priced at \$25.00?

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

142

139

5-A17344K92D-2.3
5-C50002-2.3.1

Report #: RA47344K

NAEP #: 5-C50002K-92D-23

Content
Objective: F. Technology

Process
Objective: Hand Held Calculator

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	11-19	14-19
TOTAL TIME: (in seconds)	<u>13</u>	<u>17</u>
	41	41

5-A47344K92D-2,3
5-C50002K-2,3

SCORING GUIDE

Categories are listed below.

- 1 = \$3.75, 3.75 OR 375¢
- 0 = OTHER
- 1 = 21.25 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $25 \times .85$,
25 - (25 \times .15) OR 25 - 3.75
- 2 = \$10, 10, -10, 24.85 OR ATTEMPTED 25 - 15 OR 25 - .15
- 3 = \$15, 15, .15 OR 15¢
- 4 = 166, 1.66, 1.67, 1.6 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED
 $15 \overline{) 25}$
- 5 = .6 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $25 \overline{) 15}$
- 6 = 11.11 OR OTHER DECIMAL PLACEMENT
- 7 = \$3.75¢, 375 WITHOUT ¢, OTHER DECIMAL PLACEMENT OF 3.75 OTHER
THAN CATEGORY 11 OR ATTEMPTED $25 \times .15$ WITH NO OR WRONG ANSWER
- 7 = I DON'T KNOW.
- 8 = NO RESPONSE

Six simple multiplication problems will be read to you. Write only the ANSWERS in the spaces provided.

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

	A	B	C	D	E	F
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>



DO NOT
CONTINUE
UNTIL TOLD
TO DO SO

Report #: RA47711

NAEP #: 5-A47711-92D-1

Content Objective: A. Number and Numeration

Process Objective: Knowledge of Basic Number Facts

Exercise Type: Open-ended
Stimulus Type: Tape

Overlap:
Package-Exercise:

TOTAL TIME: (in seconds)

$$\begin{array}{r} 9 \\ \hline 04-33 \end{array}$$

$$\begin{array}{r} 9 \\ \hline 52 \end{array}$$

5-A47711-92D-1
SCORING GUIDE: PARTS A & B

Categories are listed below.

PART A:

- 11 = 24
- 20 = OTHER
- 21 = 3 X 8
- 22 = 11
- 23 = 5 OR -5
- 24 = 16 OR 32
- 25 = 21 OR 27
- 26 = 38
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

PART B:

- 11 = 48
- 20 = OTHER
- 21 = 8 X 6
- 22 = 14
- 23 = 2 OR -2
- 24 = 42 OR 54
- 25 = 40 OR 56
- 26 = 86
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

SCORING GUIDE: PARTS C & D

Categories are listed below.

PART C:

- 11 = 20
- 20 = OTHER
- 21 = 4 X 5
- 22 = 9
- 23 = 1 OR -1
- 24 = 15 OR 25
- 25 = 16 OR 24
- 26 = 45
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

PART D:

- 11 = 28
- 20 = OTHER
- 21 = 7 X 4
- 22 = 11
- 23 = 3 OR -3
- 24 = 24 OR 32
- 25 = 21 OR 35
- 26 = 74
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

SCORING GUIDE: PARTS E & F

Categories are listed below.

PART E:

- 11 = 18
20 = OTHER
21 = 2 X 9
22 = 11
23 = 7 OR -7
24 = 9 OR 27
25 = 16 OR 20
26 = 29
77 = I DON'T KNOW.
88 = NO RESPONSE

PART F:

- 11 = 42
20 = OTHER
21 = 6 X 7
22 = 13
23 = 1 OR -1
24 = 35 OR 49
25 = 36 OR 48
26 = 67
77 = I DON'T KNOW.
88 = NO RESPONSE

Which one of the following is the same as 4×7 ?

☐ 47

☐ $4 + 7$

☒ $7 + 7 + 7 + 7$

☐ $\frac{4}{7}$

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

150

147

Report #: RA47832

NAEP #: 5-A47832-92D-1

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{01-07}$

TOTAL TIME: (in seconds) $\frac{9}{26}$

ANSWER _____

2
3
4
5
6
7
8
9
10
11

1 2 3 4 5 6 7 8 9

5-A 1-22-1020-2

152
149



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA48221

NAEP #: 5-A48221-92D-2

Content Objective: A. Number and Numeration

Process Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{13}{10-37}$

TOTAL TIME: (in seconds) $\frac{13}{-5}$

5-A48221-92D-2
SCORING GUIDE

Categories are listed below.

- 1 = 32 BUSES OR 32
- 0 = OTHER
- 1 = $31.3\overline{3}$, $31 \frac{1}{3}$, $31 \text{ R } 12$ OR ATTEMPTED $36 \overline{) 1128}$
- 2 = .0319148 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $1128 \overline{) 36}$
- 3 = 1164 OR ATTEMPTED $1128 + 36$
- 4 = 1092 OR ATTEMPTED $1128 - 36$
- 5 = 31
- 6 = 40,608 OR ATTEMPTED 1128×36
- 7 = I DON'T KNOW.
- 8 = NO RESPONSE

An army bus holds 36 soldiers. If 1128 soldiers are being bused to their training site, how many buses are needed?

ANSWER _____

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DO NOT CONTINUE
UNTIL TOLD TO DO SO

155

152

GA-221K92D-23

Report #: RA48221K
NAEP #: 5-A48221K-92D-23

Content
Objective: F. Technology

Process
Objective: Hand Held Calculator

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{11-18}$	$\frac{17}{14-18}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{45}$	$\frac{17}{35}$
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5-A48221K92D-2,3

SCORING GUIDE

Categories are listed below.

- 1 = 32 BUSES OR 32
- 0 = OTHER
- 1 = $31.33\bar{3}$, $31 \frac{1}{3}$, $31 \text{ R } 12$ OR ATTEMPTED $36 \overline{)1128}$
- 2 = .0319148 OR OTHER DECIMAL PLACEMENT OR ATTEMPTED $1128 \overline{)36}$
- 3 = 1164 OR ATTEMPTED $1128 + 36$
- 4 = 1092 OR ATTEMPTED $1128 - 36$
- 5 = 31
- 6 = 40,608 OR ATTEMPTED 1128×36
- 7 = I DON'T KNOW.
- 8 = NO RESPONSE

Which one of the following numbers is GREATER than $\frac{1}{3}$ but LESS than $\frac{3}{4}$?

☐ $\frac{1}{5}$

☐ $\frac{1}{4}$

☒ $\frac{1}{2}$

☐ $\frac{5}{6}$

☐ I don't know.

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5-A51932-41D-2.3
5-C20023-2.3

158

155



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA51932\

NAEP #: 5-C20023-43D-23

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{08-02}$	$\frac{17}{11-02}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{80}$	$\frac{17}{75}$

Arrange the given numbers from LEAST to GREATEST.

0.07, 0.4, 0.23, 0.009, 0.1

LEAST _____ GREATEST

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160

157



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA52132

NAEP #: 5-A52132-92D-23

Content Objective: A. Number and Numeration

Process Objective: Knowledge

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{12-17}$	$\frac{17}{07-24}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{39}$	$\frac{17}{38}$

5-A52132-92D-2,3
SCORING GUIDE

Categories are listed below.

- 11 = 0.009, 0.07, 0.1, 0.23, 0.4
- 20 = OTHER
- 21 = .009, .23, .07, .4, .1
- 22 = .009, .07, .23, .4, .1
- 23 = 0.1, 0.4, 0.07, 0.23, 0.009
- 24 = 0.1, 0.4, 0.07, 0.009, 0.23
- 25 = .23, .009, .07, .4, .1
- 26 = 0.4, 0.23, 0.1, 0.07, 0.009
- 27 = .009, .07, .23, .1, .4
- 28 = .009, .07, .1, .4, .23
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

The integers are the numbers

... -3, -2, -1, 0, 1, 2, 3 ...

If a and b are integers, then

A. $a + b$ is an integer.	Always <input checked="" type="radio"/>	Sometimes <input type="radio"/>	Never <input type="radio"/>	I don't know. <input type="radio"/>
B. $a - b$ is an integer.	Always <input checked="" type="radio"/>	Sometimes <input type="radio"/>	Never <input type="radio"/>	I don't know. <input type="radio"/>
C. $a \cdot b$ is an integer.	Always <input checked="" type="radio"/>	Sometimes <input type="radio"/>	Never <input type="radio"/>	I don't know. <input type="radio"/>
D. $a \div b$ is an integer.	Always <input type="radio"/>	Sometimes <input checked="" type="radio"/>	Never <input type="radio"/>	I don't know. <input type="radio"/>

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DO NOT CONTINUE
UNTIL TOLD TO DO

Report #: RA61132

NAEP #: 5-A61132-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{07-22}$	$\frac{17}{11-13}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{88}$	$\frac{17}{78}$

Jason bought 3 boxes of pencils. What else do you need to know to find out how many pencils he bought?

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

165

162

Report #: RA70443

NAEP #: 5-A70443-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Understanding

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{04-21}$

TOTAL TIME: (in seconds) $\frac{9}{32}$

166

163

5-A70443-92D-1
SCORING GUIDE

Categories are listed below.

- 11 = NEED TO KNOW HOW MANY PENCILS IN A BOX
- 20 = OTHER
- 21 = HOW MANY PENCILS, HOW MANY, HOW MANY IN THE BOXES
- 22 = HOW MUCH THEY COST, HOW MUCH MONEY, ETC.
- 23 = COUNT THEM
- 24 = NAMES AN OPERATION: DIVIDE, SUBTRACT, ETC.
- 25 = 3, THREE AND OTHER NUMERIC ANSWERS
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

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165



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RA71443

NAEP #: 5-A71443-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

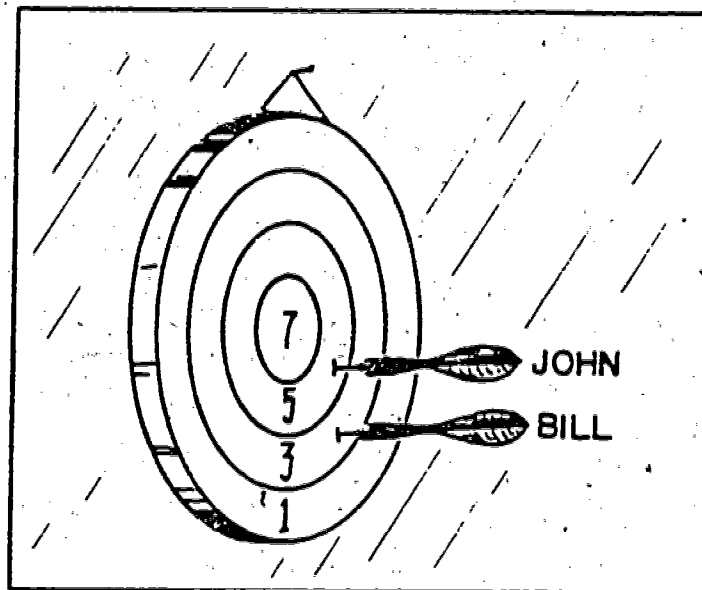
Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	12-07	13-29

TOTAL TIME: (in seconds)	<u>13</u>	<u>17</u>
	105	86

5-A71443-92D-2,3
SCORING GUIDE

Categories are listed below.

- 11 = 20--10¢ AND 3--16¢ STAMPS WITH NO CORRECT EQUATIONS, AND NO CORRECT PAIR OF EQUATIONS
- 12 = 20--10¢ STAMPS AND 3--16¢ STAMPS WITH INDICATION OF 3×16 OR $16 + 16 + 16$
- 13 = 20--10¢ STAMPS AND 3--16¢ STAMPS WITH A CORRECT EQUATION; I.E., $10X + (23 - X) 16 = 248$, $10(23 - X) + 16X = 248$ OR EQUIVALENT, OR A CORRECT PAIR OF EQUATIONS SUCH AS $10X + 16Y = 248$ AND $X + Y = 23$ OR EQUIVALENT
- 20 = OTHER
- 21 = 12--10¢ STAMPS AND 8--16¢ STAMPS; OR 4--10¢ STAMPS AND 13--16¢ STAMPS.
- 22 = THE SUM OF THE 10¢ AND 16¢ STAMPS IS 23 (EXCEPT FOR CATEGORIES 11, 12 OR 13); 11--10¢ STAMPS AND 12--16¢ STAMPS; 13--10¢ STAMPS AND 10--16¢ STAMPS
- 23 = WROTE $10X + 16Y = 248$ OR EQUIVALENT WITH NO OR WRONG ANSWER OR $X + Y = 23$ OR EQUIVALENT WITH NO OR WRONG ANSWER
- 24 = WROTE CORRECT NUMBERS IN WRONG LINES. 3--10¢ STAMPS AND 20--16¢ STAMPS
- 77 = I DON'T KNOW.
- 38 = NO RESPONSE



John threw a dart that landed in the 5 area. Bill threw a dart that landed in the 3 area. Each boy has one more dart to throw. It is now John's turn. Where are the possible places that John can throw his dart so that Bill cannot tie or beat him?

- ☒ In the 7 area only
- ☐ In the 7 or in the 5 area only
- ☐ In the 7, in the 5, or in the 3 area
- ☐ John can't be sure to win after his throw. He has to wait until Bill throws his dart.
- ☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

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A72043-02D-1.2

Report #: RA72043

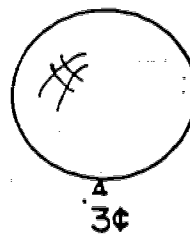
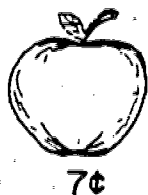
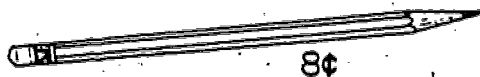
NAEP #: 5-A72043-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Non-Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	<u>9</u>	<u>13</u>
Package-Exercise:	03-17	08-20
TOTAL TIME: (in seconds)	<u>9</u>	<u>13</u>
	94	89



Joyce has 50¢. Which of the following can she buy?

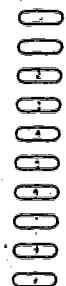
- ☐ 3 candy bars and a pencil
- ☐ 4 ice cream cones and a candy bar
- ☒ 5 apples and 3 balloons
- ☐ 3 apples and 3 ice cream cones.
- ☐ I don't know.

173

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.



Report #: RA80944

NAEP #: 5-A80944-92D-12

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{02-05}$	$\frac{13}{08-12}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{9}{78}$	$\frac{13}{64}$

Suppose you want to bake some cakes for a party. Two cake recipes require the following amounts of flour:

Pineapple Swirl Cake

$2\frac{1}{3}$ cups flour

Chocolate Velvet Cake

$2\frac{1}{2}$ cups flour

How much flour will be needed to make three Pineapple Swirl Cakes and two Chocolate Velvet Cakes?

☐ $4\frac{5}{6}$

☐ 7

☐ $10\frac{5}{6}$

☒ 12

☐ $12\frac{1}{6}$

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

175

172

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Report #: RA81042

NAEP #: 5-A81042-92D-23

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{09-13}$	$\frac{17}{11-20}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{64}$	$\frac{17}{62}$

Fiscal National Bank Box 777 Mayday, Oregon		Statement of Account Acct. No. Date F-472-234 May 4, 1977	
T.T. Meriweather 17 Storm Lane		Balance Forward \$543.12	
Date	Debits		Credits New Balance
4-4	13.22	12.75	517.15
4-7	230.00		287.15
4-9	193.17	15.06	78.92
4-15	20.00		233.92
4-19	37.42		196.50
4-23	17.49	28.73	150.28
4-28	52.65	16.12	81.51
	1.00	Service Charge	80.51
	Debits		Credits New Balance
	No.	Total	No. Total
	12	637.61	1 175.00
			80.51

A. How much money does T. T. Meriweather presently have in this account?

- ☒ \$ 80.51
- ☐ \$175.00
- ☐ \$543.12
- ☐ \$636.61
- ☐ I don't know.

B. What is the total amount of debits this month?

- ☐ \$ 80.51
- ☐ \$175.00
- ☐ \$543.12
- ☒ \$637.61

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA90144

NAEP #: 5-A90144-92D-3

Content
Objective: E. Probability and Statistics

Process
Objective: Skill

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{17}{13-06}$

TOTAL TIME: (in seconds) $\frac{17}{49}$

178
173

Linda's new bike cost \$159.99 and the sales tax was 5%. How much did she pay including tax?

☐ \$164.99

☒ \$167.99

☐ \$172.98

☐ \$177.99

☐ I don't know.

179

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RA91944

NAEP #: 5-A91944-92D-3

Content
Objective: A. Number and Numeration

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: $\frac{17}{11-09}$
Package-Exercise:

TOTAL TIME: (in seconds) $\frac{17}{69}$

3

Transaction	Tax
A. \$ 90	
B. \$ 6.89	
C. \$12.35	
D. \$ 6.00	
E. \$ 8.97	

(Continued)

SALES TAX COLLECTION CHART

<i>Amount of Sale</i>	<i>Total</i>
\$.01 to \$.18	\$.00
.19 to .51	.03
.52 to .84	.06
.85 to 1.18	.09
1.19 to 1.51	.12
1.52 to 1.84	.15
1.85 to 2.18	.18
2.19 to 2.51	.21
2.52 to 2.84	.24
2.85 to 3.18	.27
3.19 to 3.51	.30
3.52 to 3.84	.33
3.85 to 4.18	.36
4.19 to 4.51	.39
4.52 to 4.84	.42
4.85 to 5.18	.45

<i>Amount of Sale</i>	<i>Total</i>
\$ 5.19 to 5.51	\$.48
5.52 to 5.84	.51
5.85 to 6.18	.54
6.19 to 6.51	.57
6.52 to 6.84	.60
6.85 to 7.18	.63
7.19 to 7.51	.66
7.52 to 7.84	.69
7.85 to 8.18	.72
8.19 to 8.51	.75
8.52 to 8.84	.78
8.85 to 9.18	.81
9.19 to 9.51	.84
9.52 to 9.84	.87
9.85 to 10.18	.90

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.

1981-82 T1241 S1206
1977-78 T0340 S1104
1972-73 T0326 S1113

5-A94123-43D-2,3
5-P00001-2,3

SCORING GUIDE: PARTS A & B

Categories are listed below.

PART A:

- 11 = \$.09
12 = .09
13 = 9¢
15 = \$.99, .99 OR 99¢
20 = OTHER
21 = 9, .09¢ OR \$.09
23 = 99
77 = I DON'T KNOW.
88 = NO RESPONSE

PART B:

- 11 = \$.63
12 = .63
13 = 63¢
15 = \$7.52, 7.52 OR 752¢
20 = OTHER
21 = 63 OR .63¢
23 = 752
77 = I DON'T KNOW.
88 = NO RESPONSE

SCORING GUIDES: PARTS C & D

Categories are listed below.

PART C:

- 11 = \$1.11
- 12 = 1.11
- 13 = 111¢
- 14 = \$1.08, 1.08, OR 108¢
- 15 = \$13.43, \$13.46, 13.43, 13.46, 1343¢ OR 1346¢
- 20 = OTHER
- 21 = 111 OR \$1.11¢
- 22 = 108 OR 1.08¢
- 23 = 1343 OR 1346
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

PART D:

- 11 = \$.54
- 12 = .54
- 13 = 54¢
- 15 = \$6.54, 6.54 OR 654¢
- 20 = OTHER
- 21 = 54 OR \$.54¢
- 23 = 654
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

5-A94123
5-P00001
PART E

SCORING GUIDE: PART E

Categories are listed below.

PART E:

- 11 = \$.81
- 12 = .81
- 13 = 81¢
- 15 = \$9.78, 9.78 OR 978¢
- 20 = OTHER
- 21 = 81 OR \$.81¢
- 23 = 978
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

Which one of the following is a quadratic equation?

☐ $3x^3 + 4x^2 = 8$

☒ $x^2 + 7x + 9 = 0$

☐ $ax + b = c$

☐ $3x + 46 = 17$

☐ I don't know.

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186

184



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

MB0211-92D-3

Report #: RB10211

NAEP #: 5-B10211-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{17}{08-23}$

TOTAL TIME: (in seconds) $\frac{17}{18}$

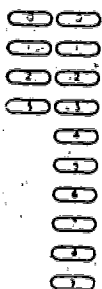
187

185

$$ax + b = c + 2$$

Solve this equation for x.

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RB22325

NAEP #: 5-B22325-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Skill in Manipulating

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap: $\frac{17}{09-35}$
Package-Exercise:

TOTAL TIME: (in seconds) $\frac{17}{30}$

5-B22325-92D-3
SCORING GUIDE

Categories are listed below.

- 1 = $X = \frac{C + 2 - B}{A}$, (C + 2 - B) DIVIDED BY A OR EQUIVALENT
- 0 = OTHER
- 1 = PARTIAL MANIPULATION, CORRECTLY DONE, NOT FINISHED SUCH AS:
 $X + B/A = \frac{C + 2}{2}$, $AX = C + 2 - B$ OR $AX + B - C = 2$
- 2 = 2 OR $X = 2$
- 3 = 1 OR $X = 1$
- 4 = $\frac{C + 2}{A + B}$
- 5 = $C + 2 - B/A = X$ OR $-B/A + C + 2 = X$
- 7 = I DON'T KNOW.
- 3 = NO RESPONSE

If $x + 3$ is equal to or greater than nine, then x must be equal to or greater than what number?

ANSWER _____

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5-B23025-43D-2.3
5-H11025-2.3.1

189

191



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RB23025

NAEP #: 5-H11025-43D-23

Content
Objective: B. Variables and Relationships

Process
Objective: Skill in Manipulating

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{09-40}$	$\frac{17}{11-04}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{62}$	$\frac{17}{59}$
--------------------------	-----------------	-----------------

5-B23025-43D-2,3
5-H11025-2,3
SCORING GUIDE

Categories are listed below.

- 11 = 6
- 12 = 6 OR LARGER, 6 OR GREATER
- 20 = OTHER, $(6 + 3)$ OR $9 + 3 = 12$
- 21 = (6, 7, 8, 9, ...), 6, 7, ..., 6..., 6 OR 7
- 22 = 9, 9 OR MORE, (9, 10, 11, ...) OR 9, 10, 11...
- 23 = 7, (7, 8, 9...) OR 7, 8, 9...
- 24 = 12, 12 OR MORE, (12, 13, ...) OR 12, 13, 14...
- 25 = 3, 3 OR MORE OR (3, 4, 5...)
- 26 = NUMBER GREATER THAN SIX OTHER THAN CATEGORIES 22, 23 OR 24
- 27 = GREATER THAN 6
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

Dick drove his parents' car from his house to his grandfather's farm at 40 mph. He returned by bicycle at 8 mph. If the entire trip took 3 hours, how far is it from his house to his grandfather's farm?

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

194
192

Report #: RB25142

NAEP #: 5-B25142-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 07-20

TOTAL TIME: (in seconds) 17
108

5-B25142-92D-3
SCORING GUIDE

Categories are listed below.

- 11 = 20 MILES OR 20
- 20 = OTHER
- 21 = 60 OR 12
- 22 = 120 OR ATTEMPTED 40×3
- 23 = 24 OR ATTEMPTED 8×3
- 24 = 48, 51 OR ATTEMPTED $40 + 8$ OR $40 + 8 + 3$
- 25 = 5 OR ATTEMPTED 40 DIVIDED BY 8
- 26 = 144 OR ATTEMPTED $(40 + 8) \times 3$
- 27 = WROTE ONE OF THE FOLLOWING EQUATIONS: $X = 40Y$, $X = 8(3 - Y)$,
 $X + Y = 3$, $40X = 8Y$, OR OTHER INCORRECT EQUATIONS
- 28 = WROTE CORRECT EQUATION OR PAIR OF EQUATIONS WITH NO OR WRONG
ANSWER. E.G., $\frac{X}{40} + \frac{Y}{8} = 3$, $X = 40Y$ AND $X = 8(3 - Y)$,
 $X + Y = 3$ AND $40X = 8Y$, $40X = 8(3 - Y)$ OR $40(3 - Y) = 8Y$
- 29 = $1/2$, $2 \frac{1}{2}$, $1/2$ AND $2 \frac{1}{2}$ WITH NO WORK OR WORK OTHER
THAN CATEGORY 28
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

$$144 = \square \times 8$$

What number should go in the \square to make this number sentence TRUE?

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #:

32562

NAEP #:

5-325625-2D-2

Content
Objective:

B. Variables and Relationships

Process
Objective:

Skill in Manipulating

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{13}{19-31}$

TOTAL TIME: (in seconds) $\frac{13}{29}$

5-B25625-92D-2
SCORING GUIDE

Categories are listed below.

- 11 = 18
- 20 = OTHER
- 21 = ATTEMPTED 144 DIVIDED BY 8 WITH NO OR WRONG ANSWER
- 22 = 1152 OR ATTEMPTED 144×8
- 23 = 152 OR ATTEMPTED $144 + 8$
- 24 = 136 OR ATTEMPTED $144 - 8$
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

A. $x^5 \cdot x^7 =$

☐ x^{-2}

☐ x^2

☒ x^{12}

☐ x^{35}

☐ $12x$

☐ $35x$

☐ I don't know.

B. $\frac{x^5}{x^{15}} =$

☐ x^4

☐ x^{-3}

☒ x^{-10}

☐ x^{10}

☐ x^{20}

☐ $\frac{1}{3}$

☐ $\frac{1}{3}x$

☐ I don't know.

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200



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RB30125

NAEP #: 5-B30125-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Skill in Manipulating

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 09-27

TOTAL TIME: (in seconds) 17
42

a	b
1	6
2	8
3	10
4	12

Which rule fits this table?

☐ $b = (3 \times a) + 3$

☐ $b = (2 \times a) + 3$

☐ $b = (3 \times a) + 2$

☒ $b = (2 \times a) + 4$

☐ I don't know.

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202

200



DO NOT CONTINUE
UNTIL TOLD TO DO

Report #: RB40847

NAEP #: 5-B40847-92D-2

Content
Objective: B. Variables and Relationships

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{13}{10-13}$

TOTAL TIME: (in seconds) $\frac{-13}{42}$

Which of the following numbers could be written in the form $4m+3$ where m is a counting number?

☐ 25

☐ 28

☒ 31

☐ 80

☐ I don't know.

0000000000

140933-92D-1

204

202



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RB40932

NAEP #: 5-B40932-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Applications of Non-Routine Problems

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:

Package-Exercise: $\frac{17}{13-16}$

TOTAL TIME: (in seconds) $\frac{17}{48}$

If $y = \frac{5}{x}$, what happens to y as x increases?

- ☐ y increases.
- ☒ y decreases.
- ☐ y remains the same.
- ☐ I don't know.

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206
204



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RB41832

NAEP #: 5-B41832-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Understanding

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 09-15

TOTAL TIME: (in seconds) 17
34

In a coordinate plane a rectangle has vertices at the points $(-2, 3)$, $(-2, -2)$, $(12, -2)$ and $(12, 3)$. What is the area of this rectangle?

- ☐ 38
- ☐ 50
- ☒ 70
- ☐ 84
- ☐ I don't know.

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208

206



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RB51223

NAEP #: 5-B51223-92D-3

Content
Objective: B. Variables and Relationships

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{17}{09-23}$

TOTAL TIME: (in seconds) $\frac{17}{84}$

Ed weighs more than Linda and is shorter than Peter. Peter weighs less than Linda and is also shorter than Linda.

A. Who is the tallest?

- ☐ Ed
- ☐ Peter
- ☒ Linda
- ☐ I don't know.

B. Who is the heaviest?

- ☒ Ed
- ☐ Peter
- ☐ Linda
- ☐ I don't know.

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210



DO NOT CONTINUE
UNTIL TOLD TO DO SO

208

5-B70216-D1D-2

Report #: RB70246

NAEP #: 5-B70246-D1D-2

Content
Objective: B. Variables and Relationships

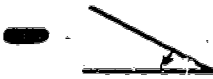
Process
Objective: Applications of Reasoning and Judgment

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 13
Package-Exercise: 14-20

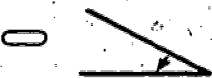
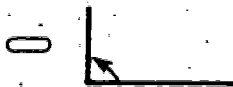
TOTAL TIME: (in seconds) 13
68

A. Which figure shows an acute angle?



☐ I don't know.

B. Which figure shows an obtuse angle?



☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

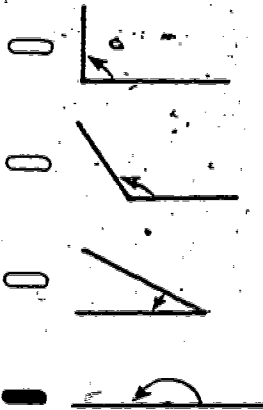
212

210

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(Continued)

C. Which figure shows a straight angle?



☐ I don't know.

213



DO NOT CONTINUE
UNTIL TOLD TO DO SO

211

Report #: RC10411

NAEP #: 5-C10411-92D-2

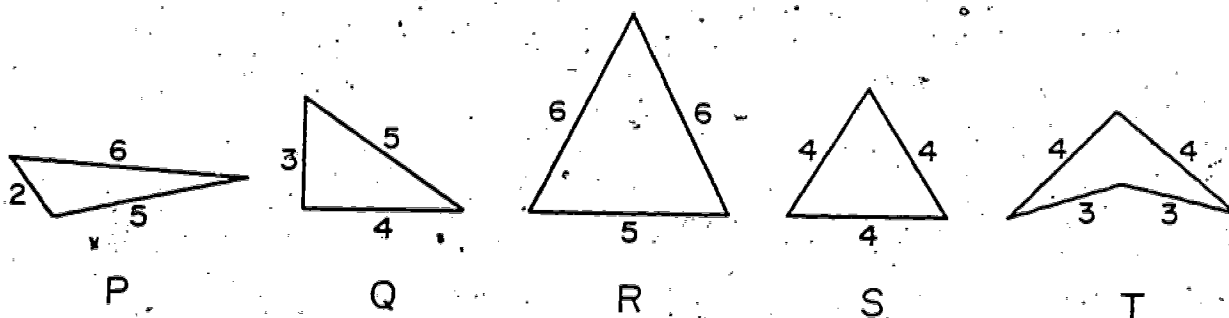
Content
Objective: C. Shape, Size and Position

Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 13
Package-Exercise: 12-32

TOTAL TIME: (in seconds) 13
35



Which figures show a triangle?

- ☐ Figures P and Q only
- ☐ Figures P, R and S only.
- ☐ All of the figures
- ☒ All except Figure T
- ☐ I don't know.

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215



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

213

Report #: RC12611

NAEP #: 5-C12611-92D-12

Content
Objective: C. Shape, Size and Position

Process
Objective: Number and Numeration

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

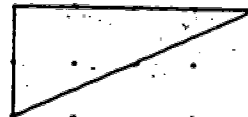
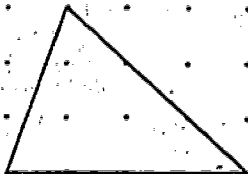
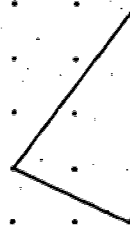
Overlap: 9
Package-Exercise: 01-14

TOTAL TIME: (in seconds) 9
35



Suppose you cut out the above triangle. On top of which triangle shown below would it fit exactly? Fill in the oval beside the triangle you choose.

☐

☐

☐

☐

☐ I don't know.


DO NOT CONTINUE
UNTIL TOLD TO DO SO.

217

215



Report #: RC20432

NAEP #: 5-C20432-92D-123

Content
Objective: C. Shape, Size and Position

Process
Objective: Skill in Manipulating

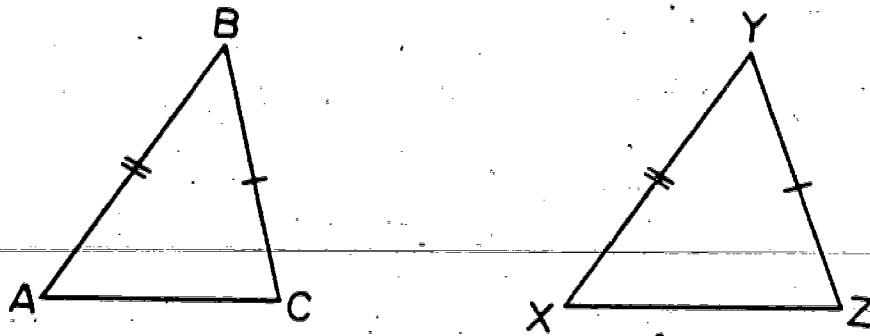
Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{04-27}$	$\frac{13}{08-16}$	$\frac{17}{09-28}$
Package-Exercise:			
TOTAL TIME: (in seconds)	$\frac{9}{41}$	$\frac{13}{31}$	$\frac{17}{28}$

218

216

In triangles ABC and XYZ, side \overline{AB} is congruent to side \overline{XY} , and side \overline{BC} is congruent to side \overline{YZ} . Which statement would NOT guarantee that the triangles are congruent?



- ☐ Angle A is congruent to angle X, and angle C is congruent to angle Z.
- ☐ Angle B is congruent to angle Y.
- ☒ Angle A is congruent to angle X.
- ☐ Side \overline{AC} is congruent to side \overline{XZ} .
- ☐ I don't know.

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RC20932

NAEP #: 5-C20932-92D-23

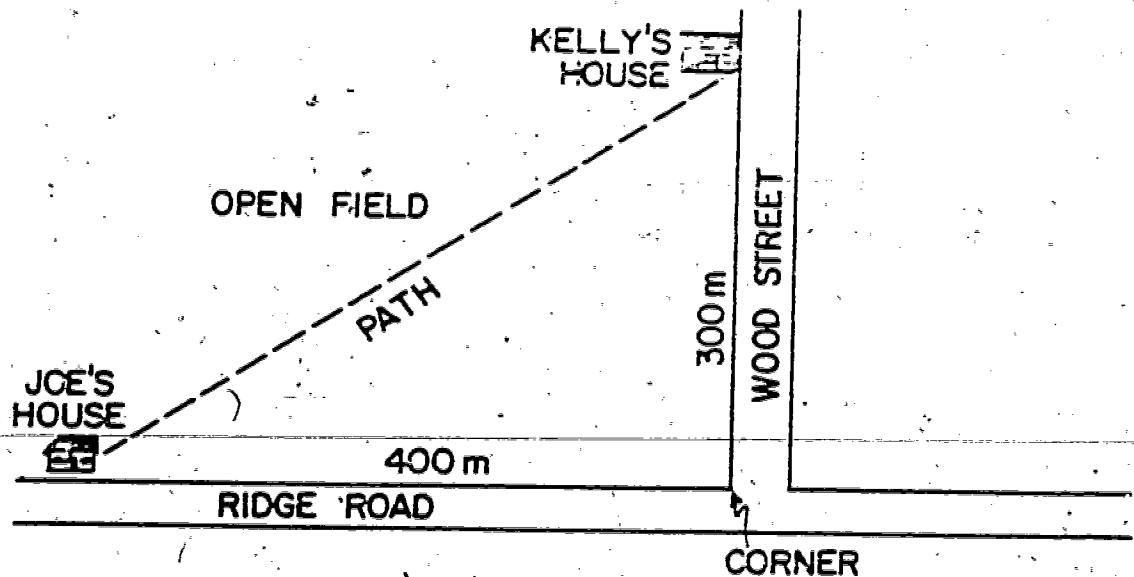
Content
Objective: C. Shape, Size and Position

Process
Objective: 3. Understanding

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{13-07}$	$\frac{17}{11-17}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{72}$	$\frac{17}{65}$
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Joe's house on Ridge Road is 400 meters from the corner of Ridge Road and Wood Street. Kelly's house is on Wood Street and is 300 meters from the same corner. When Joe goes to Kelly's house, he walks through the open field. How many meters does he walk?

- ☐ 450
- ☐ 500
- ☐ 550
- ☐ 600
- ☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

221

219

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Report #: RC40542

NAEP #: 5-C40542-92D-23

Content
Objective: C. Shape, Size and Position

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{07-15}$	$\frac{17}{07-13}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{59}$	$\frac{17}{59}$

An ALTITUDE of a triangle always

- ☐ bisects an angle.
- ☐ bisects a side.
- ☒ is perpendicular to a side or its extension.
- ☐ divides the triangle into two congruent triangles.
- ☐ I don't know.

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.

223

221

Report #: RC41111

NAEP #: 5-C41111-92D-3

Content
Objective: C. Shape, Size and Position

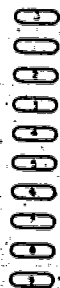
Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 12-23

TOTAL TIME: (in seconds) 17
26

Construct a line perpendicular to line ℓ at point P. Use the ruler as a straightedge and the compass. Be sure to show your work.



225

223



DO NOT CONTINUE
UNTIL TOLD TO DO SO

5-C9021-92D-3
5-C9021-919-23

Report #: RC60824

NAEP #: 5-C60824-92D-3

Content
Objective: C. Shape, Size and Position

Process
Objective: Skill in Manipulating

Exercise Type: Open-ended
Stimulus Type: Text/Tape

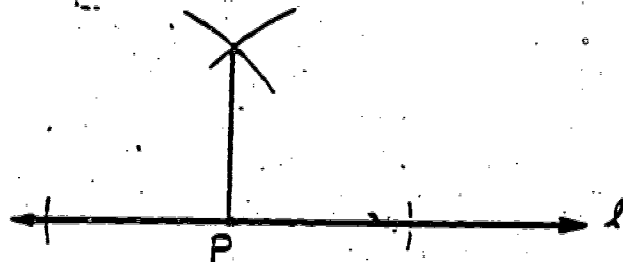
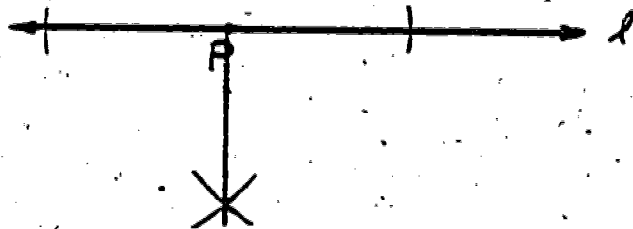
Overlap:
Package-Exercise: $\frac{17}{10-34}$

TOTAL TIME: (in seconds) $\frac{17}{61}$

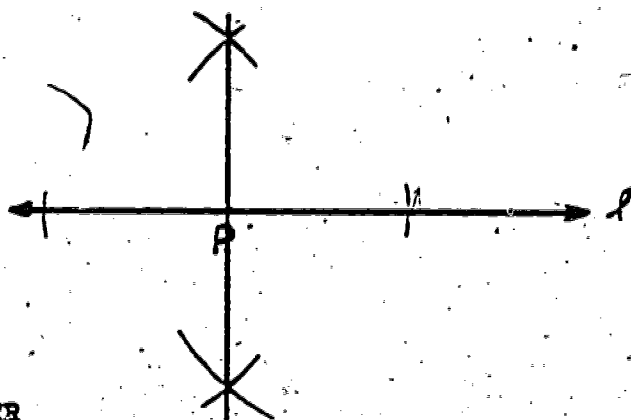
5-C60824-92D-3
SCORING GUIDE

Categories are listed below.

1 = ARCS MUST BE EQUIVALENT FROM POINT P.

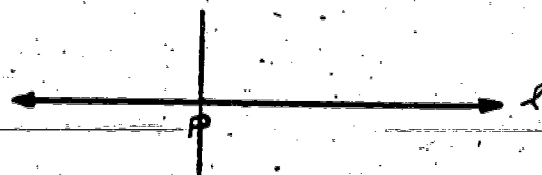
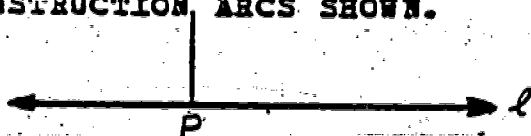


2 =



0 = OTHER

1 = DREW A LINE APPEARING PERPENDICULAR TO L AT POINT P, WITH NO CONSTRUCTION ARCS SHOWN.

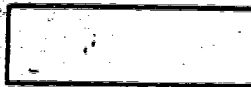


2 = DREW EITHER A CIRCLE, SEMI-CIRCLES, QUARTER CIRCLES, OR OTHER PARTS WITH POINT P AS THE CENTER, OR WITH THE LINE END POINTS AS CENTERS. NO PARALLEL LINE.

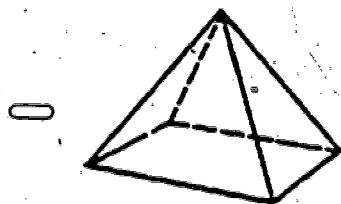
3 = CONSTRUCTED A PERPENDICULAR TO LINE L BUT NOT THROUGH POINT P. MOST LIKELY THE ARCS WILL BE CENTERED AT THE ENDS OF THE LINE SEGMENT.

7 = I DON'T KNOW.

8 = NO RESPONSE



Shown above is the shape of a face obtained by cutting one of the solids below once. Which one of the following could NOT be the solids? Fill in the oval beside the one you choose.



☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.



228
226

Report #: RC71224

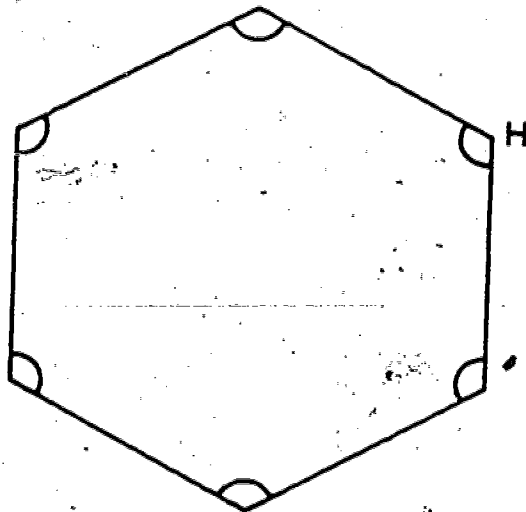
NAEP #: 5-C71224-92D-23

Content
Objective: C. Shape, Size and Position

Process
Objective: Skill in Manipulating

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	09-08	08-17
TOTAL TIME: (in seconds)	<u>13</u>	<u>17</u>
	33	24



The figure above is a regular hexagon. What is the measure of angle H?

☐ 60°

☐ 90°

☐ 115°

☒ 120°

☐ 150°

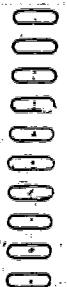
☐ I don't know:

230



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

228



Report #: RC80442

NAEP #: 5-C80442-92D-23

Content Objective: C. Shape, Size and Position

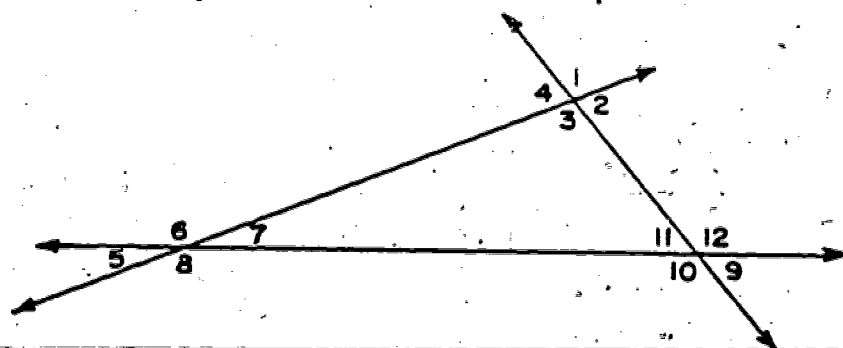
Process Objective: Applications of Routine Problems

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:	$\frac{13}{14-28}$	$\frac{17}{13-05}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{46}$	$\frac{17}{43}$
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What is the sum of the measures of angles 1, 3, 5, 7, 9, 11?

- ☐ 180°
- ☒ 360°
- ☐ 720°
- ☐ Not enough information given

☐ I don't know.



232



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

230

Report #: RC81143

NAEP #: 5-C81143-92D-23

Content

Objective: C. Shape, Size and Position

Process

Objective: Applications of Routine Problems

Exercise Type: Multiple-choice

Stimulus Type: Text/Tape

Overlap:

Package-Exercise:

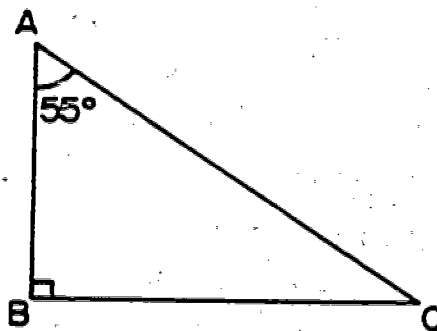
$\frac{13}{08-28}$

$\frac{17}{12-31}$

TOTAL TIME: -(in seconds)

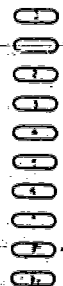
$\frac{13}{53}$

$\frac{17}{42}$



ABC is a right triangle. What is the measure of \angle ACB?

- ☒ 35°
- ☐ 45°
- ☐ 55°
- ☐ 90°
- ☐ Not enough information given
- ☐ I don't know.



234

232



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RC82132

NAEP #: 5-C82132-92D-23

Content
Objective: C. Shape, Size and Position

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-12}$	$\frac{17}{08-06}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{31}$	$\frac{17}{25}$
--------------------------	-----------------	-----------------

A. How many pints are in one quart?

☒ 2

☐ 4

☐ 6

☐ 8

☐ I don't know.

B. How many quarts are in one gallon?

☐ 2

☒ 4

☐ 6

☐ 8

☐ I don't know.

C. How many ounces are in one pound?

☐ 10

☐ 12

☒ 16

☐ 24

☐ 32

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

236

234

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D. How many feet are in one yard?

☒ 3

☐ 9

☐ 12

☐ 36

☐ I don't know.

E. How many inches are in one foot?

☐ 3

☐ 10

☒ 12

☐ 36

☐ I don't know.

237



DO NOT CONTINUE
UNTIL TOLD TO DO SO

235

Report #: RD11211

NAEP #: 5-D11211-92D-23

Content
Objective: D. Measurement

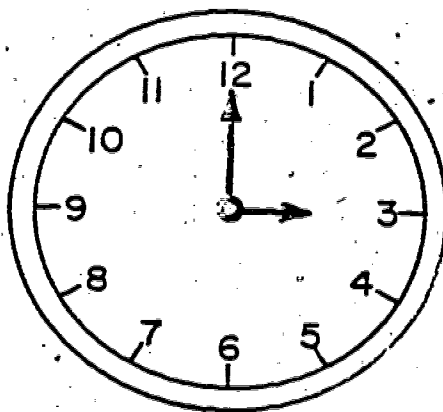
Process
Objective: Knowledge

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	07-09	09-13
TOTAL TIME: (in seconds)	<u>13</u>	<u>17</u>
	53	46

What time is shown on each clock?

A.



☐ 12:00

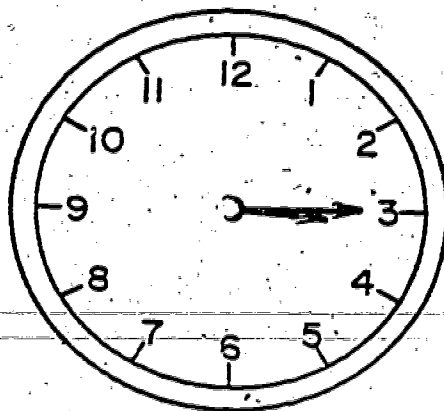
☐ 12:03

☒ 3:00

☐ 3:12

☐ I don't know.

B.



☐ 3:00

☐ 3:03

☒ 3:15

☐ 3:20

☐ I don't know.

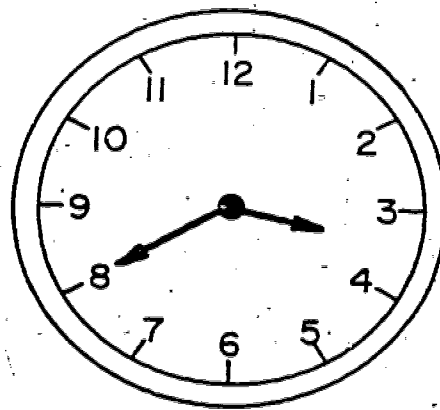
239



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

237

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☐ 3:20

☒ 3:40

☐ 4:08

☐ 8:20

☐ I don't know.

240



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

238

021122-32D-1

Report #: RD21422

NAEP #: 5-D21422-92D-1

Content
Objective: D. Measurement

Process
Objective: Skill

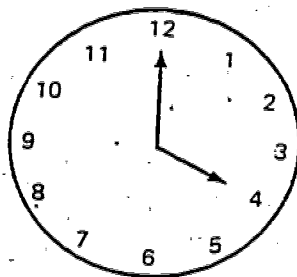
Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{03-18}$

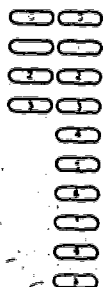
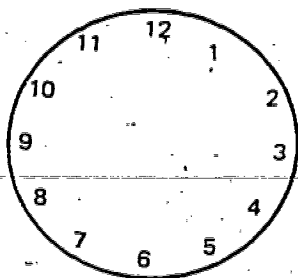
TOTAL TIME: (in seconds) $\frac{9}{38}$

241

239



Draw hands on the clock below to show how it will look one hour and ten minutes later than the time shown on the clock above.



242



DO NOT CONTINUE
UNTIL TOLD TO DO SO

240

5-121722-130-1
5-E11066-1

Report #: RD21722

NAEP #: 5-E11006-43D-1

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{9}{04-12}$

TOTAL TIME: (in seconds) $\frac{9}{34}$

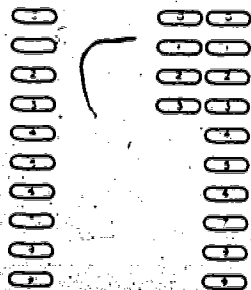
1982-82 N0412
1977-78 N0310
1972-73 N0334

5-D21722-43D-1
5-E11006-1
SCORING GUIDE

Categories are listed below.

- 11 = 5:10
 - 20 = OTHER
 - 21 = 2:25
 - 22 = 4:10 OR 2:20
 - 23 = 1:10 OR 2:05
 - 24 = 1:30 OR 6:05
 - 25 = 12:10 OR 2:00
 - 26 = INDISTINGUISHABLE BETWEEN 5:10 OR 2:25
 - 77 = I DON'T KNOW.
-
- 88 = NO RESPONSE

Use the ruler to draw a line segment 7 centimeters long.



5-D11122-92D-1.2

245
243



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD30122

NAEP #: 5-D30122-92D-12

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Open-ended
Stimulus Type: Text/Tape

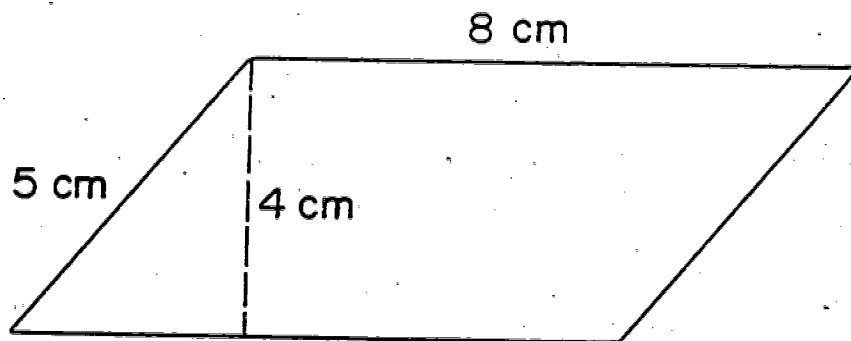
Overlap:	$\frac{9}{05-34}$	$\frac{13}{10-47}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{9}{32}$	$\frac{13}{29}$
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S-D30122-92D-1,2
SCORING GUIDE

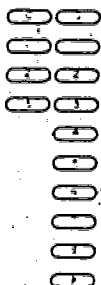
Categories are listed below.

- 11 = LINE SEGMENT 6.7 TO 7.3 CM LONG
- 20 = OTHER -- 6.4 OR ANY GEOMETRIC SHAPE
- 21 = LINE SEGMENT 6.5 TO 7.5 CM LONG OTHER THAN CATEGORY 11
- 22 = LINE SEGMENT 5.7 TO 6.3 CM LONG
- 23 = LINE SEGMENT 3.3 TO 3.7 INCLUDING 3.3 AND 3.7
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE



The dotted line is an altitude of the parallelogram. What is the area of the parallelogram?

ANSWER _____ square cm



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD40722

NAEP #: 5-D40722-92D-3

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Open-ended
Stimulus Type: Text/Tape

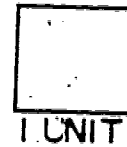
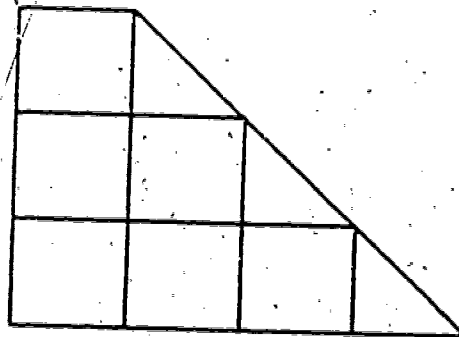
Overlap: 17
Package-Exercise: 09-18

TOTAL TIME: (in seconds) 17
37

5-D40722-92D-3
SCORING GUIDE

Categories are listed below.

- 11 = 32, 32 SQUARE CM OR CM²
- 20 = OTHER
- 21 = 16
- 22 = 17
- 23 = 26
- 24 = 30
- 25 = 40
- 26 = 160
- 27 = 20
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE



What is the area of this figure?

- ☐ 6 units
- ☒ $7\frac{1}{2}$ units
- ☐ $8\frac{1}{2}$ units
- ☐ 9 units
- ☐ 12 units
- ☐ I don't know.

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251

249



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD50432

NAEP #: 5-D50432-92D-23

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	<u>13</u>	<u>17</u>
Package-Exercise:	07-18	09-10

TOTAL TIME: (#n seconds)	<u>13</u>	<u>17</u>
	33	27

The length of a table measured to the nearest inch is 42 inches. What does this mean about the length of the table?

- ☐ It is exactly 42 inches.
- ☐ It may be anywhere between 41 inches and 43 inches.
- ☒ It may be anywhere between $41\frac{1}{2}$ inches and $42\frac{1}{2}$ inches.
- ☐ I don't know.

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253

251



DO NOT CONTINUE
UNTIL TOLD TO DO SO

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Report #: RD70232

NAEP #: 5-D70232-92D-3

Content
Objective: D. Measurement

Process
Objective: Understanding

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: 17
Package-Exercise: 11-16

TOTAL TIME: (in seconds) 17
30

Mary plans to have a party on Thursday, three weeks from December 2nd. On what DATE does she plan to have it?

DECEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

ANSWER _____



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

255

253

5-D90141-4HD-1,2,3
5-A21013-1,2,3,4

Report #: RD90141

NAEP #: 5-A21013-43D-123

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{05-12}$	$\frac{13}{07-03}$	$\frac{17}{10-01}$
Package-Exercise:			
TOTAL TIME: (in seconds)	$\frac{9}{34}$	$\frac{13}{35}$	$\frac{17}{35}$

1981-82 N0512 T0703 S1001
1977-78 N0238 T0341 S0137
1972-73 N0535 T0332 S0121

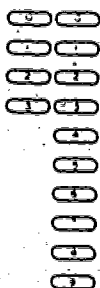
5-D90141-43D-1,2,3
5-A21013-1,2,3
SCORING GUIDE

Categories are listed below.

- 11 = DECEMBER 23RD, 23RD OR 23
- 20 = OTHER
- 21 = THURSDAY
- 22 = DECEMBER 24, 24TH OR 24
- 23 = DECEMBER 16, 16TH OR 16
- 24 = NOVEMBER 11
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

A pound of grass seed will cover an area of 400 square feet. How many pounds of grass seed are needed to cover a rectangular yard that is 120 feet long and 90 feet wide?

ANSWER _____



258



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD91242

NAEP #: 5-D91242-92D-3

Content
Objective: D. Measurement

Process
Objective: Applications of Routine Problems

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:
Package-Exercise: $\frac{17}{11-21}$

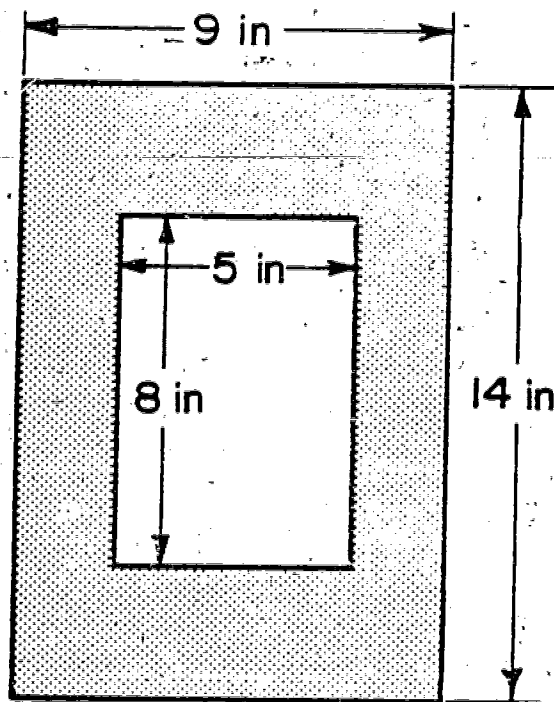
TOTAL TIME: (in seconds) $\frac{17}{61}$

5-D91242-92D-3

SCORING GUIDE

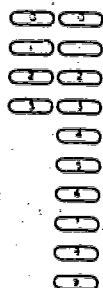
Categories are listed below.

- 11 = 27 POUNDS, 27 LBS. OR 27
- 20 = OTHER
- 21 = 270 OR 2700 WITH OR WITHOUT UNITS (CATEGORY 26 TAKES PRECEDENCE)
- 22 = 10800 WITH OR WITHOUT UNITS OR ATTEMPTED 120×90
- 23 = 190 WITH OR WITHOUT UNITS OR ATTEMPTED $400 - (120 + 90)$
- 24 = 210 WITH OR WITHOUT UNITS OR ATTEMPTED $120 + 90$
- 25 = 610 WITH OR WITHOUT UNITS OR ATTEMPTED $400 + 120 + 90$
- 26 = 27 WITH WRONG UNIT OR ATTEMPTED (120×90) DIVIDED BY 400 OR (12×9) DIVIDED BY 4
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE



What is the area of the shaded part of the figure?

ANSWER _____ square in.



5-D91342-92D-2.3

259

261



DO NOT CONTINUE
UNTIL TOLD TO DO SO

Report #: RD91342

NAEP #: 5-D91342-92D-23

Content
Objective: D. Measurement

Process
Objective: Applications of Routine Problems

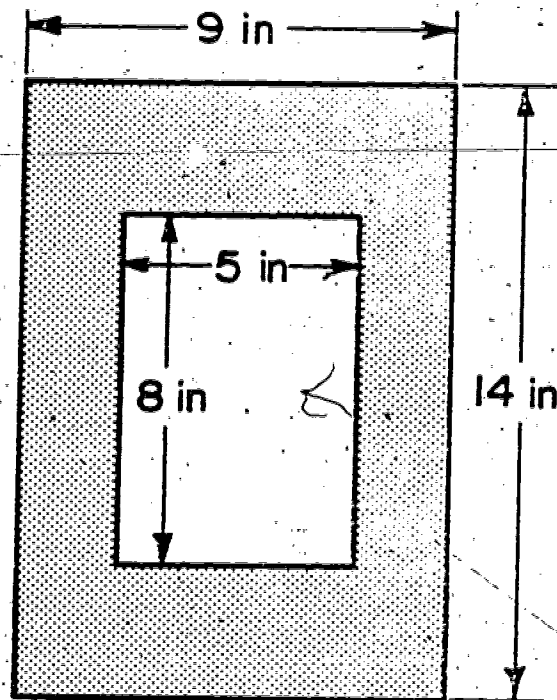
Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{09-17}$	$\frac{17}{07-23}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{44}$	$\frac{17}{43}$

5-D91342-92D-2,3
SCORING GUIDE

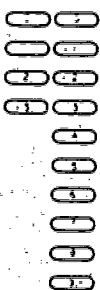
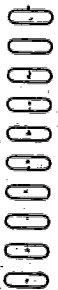
Categories are listed below.

- 11 = 86 OR 86 SQ. IN.
- 20 = OTHER
- 21 = 126 OR ATTEMPTED 9×14
- 22 = 40 OR ATTEMPTED 5×8
- 23 = 166 OR ATTEMPTED $(9 \times 14) + (5 \times 8)$
- 24 = 10, 20 OR ATTEMPTED TO FIND DIFFERENCE OF PERIMETERS OR SEMIPERIMETERS
- 25 = 36, 72 OR ATTEMPTED TO FIND SUM OF PERIMETERS OR SEMIPERIMETERS
- 26 = 24 OR ATTEMPTED 4×6 OR $(9 - 5) \times (14 - 8)$
- 27 = 46, 23 OR ATTEMPTED TO FIND PERIMETER OR SEMIPERIMETER OF LARGE RECTANGLE; 13, 26 OR ATTEMPTED TO FIND PERIMETER OR SEMIPERIMETER OF SMALL RECTANGLE
- 28 = 5040 OR ATTEMPTED $9 \times 14 \times 5 \times 8$
- 29 = ATTEMPTED $(9 \times 14) - (5 \times 8)$ WITH NO OR WRONG ANSWER
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE



What is the area of the shaded part of the figure?

ANSWER _____ square in.



264

262



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RD91342K

NAEP #: 5-D91342K-92D-23

Content
Objective: F. Technology

Process
Objective: Hand Held Calculator

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{11-28}$	$\frac{17}{14-29}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{43}$	$\frac{17}{43}$

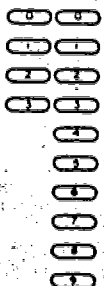
5-D91342K92D-23
SCORING GUIDE

Categories are listed below.

- 11 = 86 OR 86 SQ. IN.
- 20 = OTHER
- 21 = 126 OR ATTEMPTED 9×14
- 22 = 40 OR ATTEMPTED 5×8
- 23 = 166 OR ATTEMPTED $(9 \times 14) + (5 \times 8)$
- 24 = 10, 20 OR ATTEMPTED TO FIND DIFFERENCE OF PERIMETERS OR SEMIPERIMETERS
- 25 = 36, 72 OR ATTEMPTED TO FIND SUM OF PERIMETERS OR SEMIPERIMETERS
- 26 = 24 OR ATTEMPTED 4×6 OR $(9 - 5) \times (14 - 8)$
- 27 = 46, 23 OR ATTEMPTED TO FIND PERIMETER OR SEMIPERIMETER OF LARGE RECTANGLE; 13, 26 OR ATTEMPTED TO FIND PERIMETER OR SEMIPERIMETER OF SMALL RECTANGLE
- 28 = 5040 OR ATTEMPTED $9 \times 14 \times 5 \times 8$
- 29 = ATTEMPTED $(9 \times 14) - (5 \times 8)$ WITH NO OR WRONG ANSWER
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

How many pint-sized containers could be filled from a half-gallon carton of milk?

ANSWER _____



267



DO NOT CONTINUE
UNTIL TOLD TO DO SO

5-D92141-43D-2.3
5-E15003-2.3.4

265

Report #: RD92141

NAEP #: 5-E15003-43D-23

Content
Objective: D. Measurement

Process
Objective: Skill

Exercise Type: Open-ended
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{10-05}$	$\frac{17}{13-37}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{36}$	$\frac{17}{31}$
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1981-82 T1005 S1337
1977-78 T0804 S0203
1972-73 T0808 S0208

5-D92141-43D-2,3
5-E15003-2,3
SCORING GUIDE

Categories are listed below.

- 11 = 4, 4 CONTAINERS OR 4 PINTS
- 20 = OTHER; 2, 8 OR 16 WITH WRONG UNIT
- 21 = 2, 2 CONTAINERS OR 2 PINTS
- 22 = 8, 8 CONTAINERS OR 8 PINTS
- 23 = 16, 16 CONTAINERS OR 16 PINTS
- 24 = 4 WITH WRONG UNIT
- 77 = I DON'T KNOW.
- 88 = NO RESPONSE

Five people belong to the Tiger Club. No person may hold two offices. How many ways can the club elect a president and secretary?

☐ 5

☐ 9

☐ 10

☐ 15

☒ 20

☐ I don't know.

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270



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

268

Report #: RE10543

NAEP #: 5-E10543-92D-23

Content
Objective: E. Probability and Statistics

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

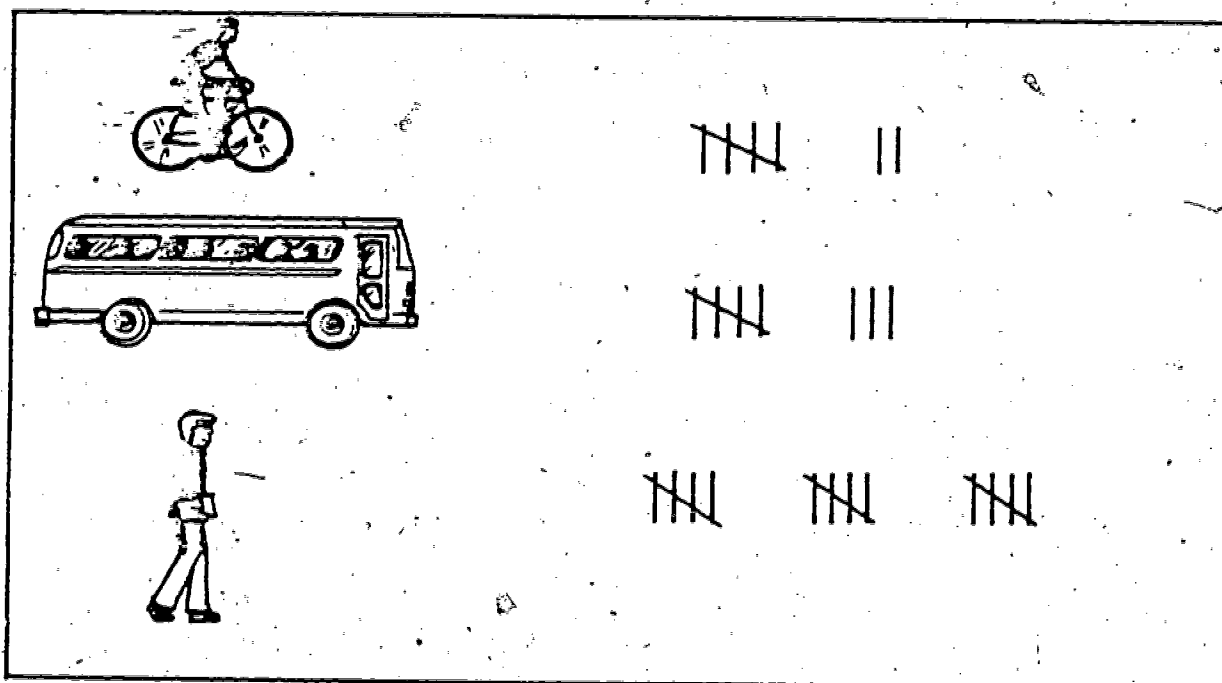
Overlap:	$\frac{13}{13-19}$	$\frac{17}{13-17}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{13}{44}$	$\frac{17}{45}$
--------------------------	-----------------	-----------------

271

269

The students in Mrs. Smith's class made a chart to show how they come to school. Each student made a mark beside one of the pictures to show how he or she comes to school. Sally is a student in Mrs. Smith's class.



Which one of the following statements is correct?

- ☐ It is more likely that Sally rides a bike than that she walks to school.
- ☒ It is more likely that Sally walks than that she takes the bus to school.
- ☐ It is more likely that Sally takes the bus than that she walks to school.
- ☐ It is more likely that Sally rides her bike than that she takes the bus to school.
- ☐ I don't know.



Report #: RE11246

NAEP #: 5-E11246-92D-12

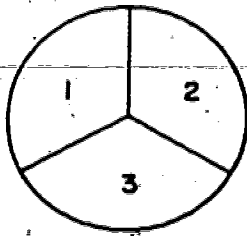
Content
Objective: E. Probability and Statistics

Process
Objective: Applications of Reasoning and Judgement

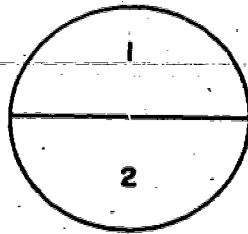
Exercise Type: Multiple-choice
Stimulus Type: Text/Tape.

Overlap:	$\frac{9}{07-09}$	$\frac{13}{13-24}$
Package-Exercise:		

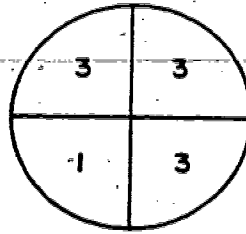
TOTAL TIME: (in seconds)	$\frac{9}{62}$	$\frac{13}{80}$
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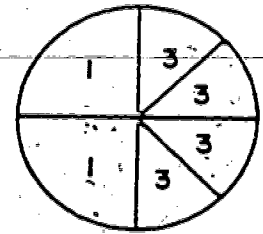
P



Q



R



S

A. You WIN the game if 3 is spun. Which spinner would you choose?

☐ P

☐ Q

☒ R

☐ S

☐ I don't know.

B. Suppose you LOSE the game if 3 is spun. Which spinner would you choose?

☐ P

☒ Q

☐ R

☐ S

☐ I don't know.



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

274

272



C. Suppose you LOSE the game if 1 is spun. Which spinner would you choose?

☐ P

☐ Q

☒ R

☐ S

☐ I don't know.

275

273



DO NOT CONTINUE
UNTIL TOLD TO DO SO

FE11332-92D-1.2

Report #: RE11532

NAEP #: 5-E11532-92D-12

Content
Objective: E. Probability and Statistics

Process
Objective: Understanding

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{02-16}$	$\frac{13}{08-38}$
Package-Exercise:		

TOTAL TIME: (in seconds)	$\frac{9}{101}$	$\frac{13}{82}$
--------------------------	-----------------	-----------------

Suppose you are playing a game. If you toss a coin and it lands tails you win \$3, but if it lands heads you lose \$2.

A. If you toss the coin just one time you will

- ☐ probably win money.
- ☒ be equally likely to win or lose money.
- ☐ probably lose money.
- ☐ I don't know.

B. If you toss the coin 100 times you will

- ☒ probably win more money than you lose.
- ☐ be equally likely to win or lose money.
- ☐ probably lose more money than you win.
- ☐ I don't know.

277



DO NOT CONTINUE
UNTIL TOLD TO DO SO

275

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3-E12616-92D-23

Report #: RE12646

NAEP #: 5-E12646-92D-23

Content
Objective: E. Probability and Statistics

Process
Objective: Applications of Reasoning and Judgment

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{13}{07-39}$	$\frac{17}{08-05}$
Package-Exercise:		
TOTAL TIME: (in seconds)	$\frac{13}{69}$	$\frac{17}{67}$

Dora traveled 20 miles in four hours. What was her average speed in miles per hour?

- ☐ 4 mph
- ☒ 5 mph
- ☐ 16 mph
- ☐ 20 mph
- ☐ 24 mph
- ☐ I don't know.

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279



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE21041

NAEP #: 5-E21041-92D-123

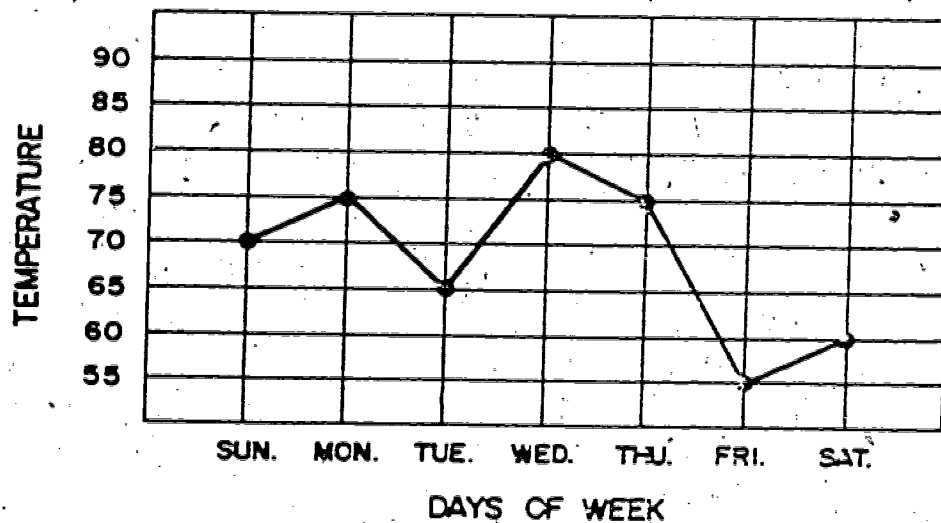
Content
Objective: E. Probability and Statistics

Process
Objective: Applications of Routine Problems

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{07-20}$	$\frac{13}{07-21}$	$\frac{17}{08-04}$
Package-Exercise:			
TOTAL TIME: (in seconds)	$\frac{9}{36}$	$\frac{13}{22}$	$\frac{17}{22}$

DAILY NOON TEMPERATURES FOR ONE WEEK



A. Which day was the warmest at noon?

- ☐ Sunday
- ☐ Monday
- ☐ Tuesday
- ☒ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday
- ☐ I don't know.

281



DO NOT CONTINUE
UNTIL TOLD TO DO SO

(Continued)

B. Which two days had the same noon temperature?

- ☐ Tuesday and Friday
- ☒ Monday and Thursday
- ☐ Monday and Wednesday
- ☐ Sunday and Saturday
- ☐ Wednesday and Thursday
- ☐ I don't know.

C. How many days was the noon temperature 70° or above?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☒ 4
- ☐ 5
- ☐ 6
- ☐ 7

☐ I don't know.

282



DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Report #: RE30323

NAEP #: 5-E30323-92D-123

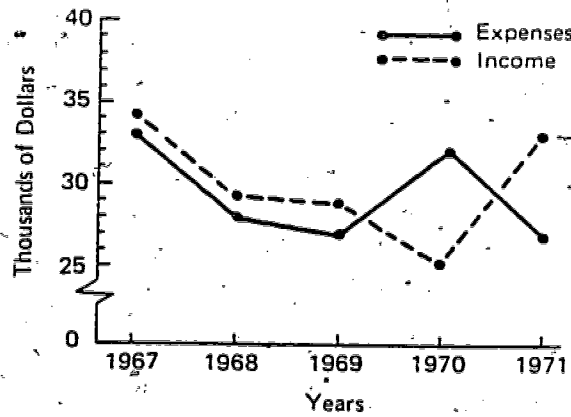
Content
Objective: E. Probability and Statistics

Process
Objective: Skill

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap:	$\frac{9}{01-24}$	$\frac{13}{09-01}$	$\frac{17}{10-11}$
Package-Exercise:			
TOTAL TIME: (in seconds)	$\frac{9}{86}$	$\frac{13}{73}$	$\frac{17}{62}$

Income and Expenses of Metro, Co. 1967-1971



According to the graph, in which year did the Metro Company make the largest dollar amount of profit?

- ☐ 1967
- ☐ 1968
- ☐ 1969
- ☐ 1970
- ☐ 1971
- ☐ I don't know.

0000000000

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DO NOT CONTINUE
UNTIL TOLD TO DO SO.

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Report #: RE32723

NAEP #: 5-J30029-43D-3

Content
Objective: E. Probability and Statistics

Process
Objective: Skill

Exercise Type: Multiple-choice
Stimulus Type: Text/Tape

Overlap: $\frac{17}{08-31}$
Package-Exercise:

TOTAL TIME: (in seconds) $\frac{17}{48}$

APPENDIX C

National and Modal Grade
P-Values for Correct Response
To Cognitive Exercises

1981-82

Assessment

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PERCENT OF CORRECT RESPONSES FOR NATION AND MODAL GRADE BY AGE
1981-82 MATHEMATICS ASSESSMENT

		Age 9		Age 13		Age 17	
		National	Grade 4	National	Grade 8	National	Grade 11
RA00944-2,3				59.9	66.5	76.4	78.6
RA01144-2,3				71.6	76.1	84.7	86.5
RA02444-2,3				57.9	60.7	64.8	65.3
RA02844-2,3				31.3	35.8	53.9	55.9
RA11111-3						32.0	33.3
RA11431-1	A	93.7	96.6				
	B	94.6	97.5				
RA11832-1,2		18.4	23.5	83.4	88.0		
RA12632-2,3	A			43.2	53.1	78.5	82.3
	B			32.4	40.4	62.2	66.3
	C			33.6	40.8	58.0	62.1
RA14411-1,2	A	85.1	91.5	95.7	96.1		
	B	90.2	94.8	97.1	97.5		
RA21841-2,3				44.8	48.4	66.3	69.9
RA24031-2,3	A			65.3	72.9	64.7	66.7
	B			37.0	42.4	32.8	34.5
	C			64.3	73.3	63.4	65.8
RA24431-2,3	A			74.3	82.3	85.2	87.8
	B			67.8	76.8	83.2	86.4
RA25432-1		5.7	6.9				
RA25632-1		19.5	25.8				
RA30731-1,2		71.7	79.2				
RA32732-2,3	A			93.9	95.1		
	B			31.9	35.2	51.3	55.2
	C			12.8	14.9	32.6	34.9
RA32921-2	A			35.6	38.8	49.3	51.6
	B			77.0	81.1		
	C			90.7	93.9		
RA32921K2	A			57.0	62.3		
	B			52.5	61.0		
	C			75.8	84.1		
RA34032-1,2,3		18.8	21.2	60.4	69.9		
RA34342-1,2		55.8	64.6	56.6	60.5	68.9	71.8
RA35241-2,3				89.4	92.4		
RA36341-2,3				54.7	62.8	74.1	78.8
RA36511-1	A	91.8	94.0	22.6	24.9	43.3	47.5
	B	87.1	91.5				
	C	88.2	91.7				
	D	78.9	85.8				
	E	85.7	90.9				
	F	82.9	89.5				
RA37111-1	A	90.2	92.8				
	B	88.1	91.2				
	C	78.8	83.1				
	D	71.0	75.7				
	E	83.3	87.6				
	F	74.6	79.1				

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PERCENT OF CORRECT RESPONSES FOR NATION AND MODAL GRADE BY AGE
1981-82 MATHEMATICS ASSESSMENT (Cont'd.)

		Age 9		Age 13		Age 17	
		National	Grade 4	National	Grade 8	National	Grade 11
RA42241-2,3				17.2	18.4	29.1	29.1
RA42832-2,3	A			73.0	79.8	89.4	90.4
	B			66.5	76.5	86.5	88.2
	C			56.8	67.4	80.3	82.1
RA44621-2	A			41.7	47.6		
	B			28.2	31.5		
	C			25.1	27.7		
RA46232-2,3				70.1	72.9	81.4	83.0
RA47344-2,3				14.0	18.0	44.0	46.8
RA47344K2,3				14.4	17.5	51.9	54.8
RA47711-1	A	70.0	81.8				
	B	49.2	64.9				
	C	78.9	90.6				
	D	63.3	78.7				
	E	79.1	89.1				
	F	55.6	71.8				
RA47832-1		73.4	80.9				
RA48221-2				23.9	28.4		
RA48221K2				7.1	8.8		
RA51932-2,3				62.2	68.5	82.3	86.5
RA52132-2,3				11.2	13.4	27.2	28.9
RA61132-2,3	A			58.0	62.9	77.7	80.6
	B			43.6	47.5	66.6	70.1
	C			39.5	44.7	65.8	68.6
	D			26.7	28.1	46.8	49.0
RA70443-1		35.0	43.2				
RA71443-2,3				30.7	34.4	43.6	44.3
RA72043-1,2		57.1	59.2	66.7	69.3		
RA80944-1,2		19.1	19.7	56.7	61.8		
RA81042-2,3				36.2	42.8	60.0	65.3
RA90144-3	A					85.9	87.5
	B					93.8	94.6
RA91944-3						57.2	59.4
RA94123-2,3	A			52.1	59.3	75.0	79.8
	B			57.1	64.2	77.5	81.1
	C			6.5	7.8	21.1	23.0
	D			53.8	60.7	76.0	80.4
	E			52.7	59.5	74.4	78.3
RB10211-3						50.6	54.4
RB22325-3						24.8	28.2
RB23025-2,3				62.2	69.2	80.9	84.4
RB25142-3						5.7	5.7
RB25625-2				54.1	60.7		
RB30125-3	A					54.2	58.9
	B					19.5	21.6
RB40847-2				26.1	29.2		
RB40932-3						27.9	29.8

PERCENT OF CORRECT RESPONSES FOR NATION AND MODAL GRADE BY AGE
1981-82 MATHEMATICS ASSESSMENT (cont'd.)

		Age 9		Age 13		Age 17	
		National	Grade 4	National	Grade 8	National	Grade 11
RB41832-3						44.4	47.3
RB51223-3						22.7	25.4
RB70246-2	A			77.8	79.1		
	B			93.0	94.4		
RC10411-2	A			46.0	50.0		
	B			53.8	57.3		
RC12611-1		48.5	54.3				
RC20432-1,2,3		58.0	62.9	82.2	83.7	82.2	84.2
RC20932-2,3				9.4	9.8	22.4	24.4
RC40542-2,3				20.0	21.8	39.0	41.1
RC41111-3						36.9	37.3
RC60824-3						16.3	19.0
RC71224-2,3				49.5	53.8	66.5	68.3
RC80442-2,3				14.6	16.8	25.5	27.3
RC81143-2,3				20.5	18.8	27.7	28.2
RC82132-2,3				9.6	10.3	43.6	47.4
RD11211-2,3	A			47.2	49.1	49.8	51.4
	B			59.6	63.3	73.8	74.9
	C			61.7	67.5	71.1	73.3
	D			58.6	62.1	66.4	69.0
	E			84.2	87.7	90.3	91.9
RD21422-1	A	94.3	95.9				
	B	90.1	94.6				
	C	77.0	83.0				
RD21722-1		40.3	46.5				
RD30122-1,2		63.7	65.6	74.5	78.2		
RD40722-3						19.2	20.5
RD50432-2,3				81.8	85.2	84.8	86.9
RD70232-3						59.3	61.8
RD90141-1,2,3		35.6	41.2	78.6	82.6	89.0	91.4
RD91242-3						22.9	25.3
RD91342-2,3				9.8	12.1	35.6	37.5
RD91342K2,3				8.2	10.7	36.0	39.2
RD92141-2,3				38.2	38.5	41.3	42.5
RE10543-2,3				4.3	4.4	11.8	12.8
RE11246-1,2		49.5	53.3	81.0	85.2		
RE11532-1,2	A	24.0	26.8	64.7	69.2		
	B	56.4	59.8	84.0	86.9		
	C	38.5	41.8	74.5	79.1		
RE12646-2,3	A			90.1	92.3	91.3	91.8
	B			24.9	23.2	29.2	30.6
RE21041-1,2,3		24.9	30.2	75.5	80.4	80.0	82.7
RE30323-1,2,3A		75.9	83.8	95.5	98.1	98.3	98.6
	B	68.9	77.4	93.5	96.6	96.5	97.0
	C	41.6	49.4	80.7	85.6	90.8	92.7
RE32723-3						43.4	44.1